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THE SOLID SOUTH PAYS THE BILL

By GEORGE BRONSON REA

THE CLASH OF EMPIRE

SILVER BULLETS

Vol. XXXI

NOVEMBER, 1935

No. 11

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VOL. XXXI

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The Clash of Empire

"The Hawaiian affair was a mere by-play or sort of interlude in the grand international drama which is being enacted on the stage of Eastern Asia" (*The Japan Times*, Tokyo, Thursday, January 8, 1898.)

By JAMES TRAPIER LOWE, PH.D., Carnegie Fellow in International Law

SHORTLY after termination of Mr. Stimson's notewriting anti-Japanese onslaught of September to January (1931-32) our American Department of Commerce published two economic studies: One,—*Interesting Facts re China's Trade*; the other, *Interesting Facts re Japan's Trade*. Together they prove with the certitude of mathematics the existence and location of American commercial interests in the Far East.

Our investments in China amount to two and one half million dollars out of a total foreign stake of more than three and a half billion. Japan, on the other hand, has slightly less than one-third of the total foreign investment in China: Great Britain more than one-third!

China's total trade for 1930 amounted to one billion dollars. Of this amount the United States got seventeen per cent of the import business and took fifteen per cent of China's exports, while the same year Japan's total trade amounted to one and a half billion dollars and the United States got twenty-nine per cent of the import business and thirty-four per cent of the export trade, amounting to more than double our business with China. Therefore, measured in dollars and

"State does not take upon itself any obligations of the Hawaiian Government arising from Treaties or Convention with the Government"

I have now the honor to inform you that I am instructed by His Imperial Majesty's Government to formally protest against the proposed annexation of the Hawaiian Islands to the United States.

This protest is made for the following reasons:

First. The maintenance of the status quo of Hawaii is essential to the good understanding of the Powers which have interests in the Pacific.

Second. The annexation of Hawaii would tend to endanger the residential, commercial and industrial rights of Japanese subjects in Hawaii secured to them by Treaty and by the Constitution and Laws of that country.

Third. Such annexation might lead to the postponement by Hawaii of the settlement of claims and liabilities already existing in favor of Japan under Treaty stipulations.

With reference to the mischievous suggestion or report which has been so industriously circulated

cents our trade with Japan is twice as valuable as that with China. As matter of fact, Japan ranks fourth among world markets for our exports, and second as a source of imports into the United States. The significance of this is apparent when compared with China's position of sixth place among our world customers, and eleventh or thirteenth place as a source of import commodities.

The four major items we sell to China are cotton, oil, tobacco, and wheat flour. On the sale of these we do not compete with Japan; on the contrary, at least seventy-five per cent of the major commodity sold (cotton) is purchased by Japanese firms in China.

Of our average one hundred million dollars annual trade with China sixty millions is in non-competitive raw materials, and of the remaining forty millions Japanese firms in China take on the average at least another ten million dollars' worth to maintain in running order the huge factories that represent the one billion, one hundred and fifty million Japanese dollars invested there. That leaves a balance of only about thirty millions for which America has to compete with Japan, Great Britain, and the rest of the world. Consequently, the Open Door in China is worth about thirty million

Japan's protest against the annexation of Hawaii by the United States—Photostat copy of Minister Hosi's letter to the American Secretary of State, John Sherman.

dollars a year to the United States, the profit on which would be about ten per cent or three million dollars a year.

How much does it cost us to earn this three million dollars a year? Discount the annual cost of our Yangtze Patrol, the Regular Army Regiment at Tientsin, and the Legation Guard to protect American lives and property. Eliminate the added expense to our Commerce Department, and do not count the defaulted and repudiated loans in commodities and money to the Chinese Government, or the outright gifts such as the fifty million dollar cotton and wheat credit, or the remitted Boxer Indemnity. Take the charity bill alone. Over a period of years we have contributed annually, ten million dollars for missionary work and another five million for uplift and welfare work such as colleges, hospitals, etc. For every dollar of profit we send back five in charity! That is the value of the Open Door to Americans in dollars and cents—a commercial policy over which we have appeared willing to fight!

That is why Theodore Roosevelt counseled friendship with Japan and dignified retreat from China. Since the Open Door is only a commercial policy and one that results in a huge deficit every year, why fight to maintain it? Moreover, Roosevelt was not deluded by any plea of our *potential* trade with the *teeming millions* of China. Elementary economics persuaded Roosevelt that industrialized nations buy and trade with other highly developed manufacturing countries: China's "teeming millions" buy less from us than the small island populations of Japan or England. If we desire undeveloped backward countries for our own nourishment and as sources of supply for raw materials or markets for investment of surplus capital at usurious interest rates, we have a whole continent and the connecting Isthmus marked out for ourselves. Why go to Asia for that?

With these high school economics in hand, Roosevelt persistently urged the futility of commercial war in Asia over the Open Door:—

"The Open Door policy in China," Roosevelt said, "was an excellent thing, and I hope it will be a good thing in the future, so far as it can be maintained by general diplomatic agreement... Our interests in Manchuria are really unimportant, and not such that the American people would be content to run the slightest risk of collision about them."

Why then, should Secretary of State Henry Lewis Stimson bring this country to the verge of war with Japan in 1931-32? Why should we *fight* to maintain the Open Door?

II

The Pact of Paris, like the Open Door in China, is a snare and a delusion to the American people. Less than a decade after the treaty of Versailles was signed and the sovereign states of the world settled down to a period of nervous neutrality, negotiations were inaugurated between the American Secretary of State, Frank B. Kellogg and Monsieur Briand, of France, for conclusion of a treaty to outlaw war between the United States and France. Kellogg and Briand were in complete accord until the former conceived the idea of making:—

"a more signal contribution to world peace by joining in an effort to obtain the adherence of *all* of the principal powers of the world to a declaration renouncing war as an instrument of national policy."

Monsieur Briand shied away from this extension as a hunter before a new fence. He refused to negotiate further until certain important *reservations* were either incorporated into the original text or attached as an official interpretation.

M. Briand's ultimatum almost broke Mr. Kellogg's heart for he was dead set upon the *arresting and appealing... purity and simplicity* of his original proposal to outlaw all war. But for some obscure reason (he was later awarded the coveted Nobel Peace Prize) the American Secretary of State persisted and carried the project through to a successful conclusion, but along Monsieur Briand's lines and with his "reservations" attached as an official interpretation.

The Pact of Paris that eventually developed, was for all practical purposes a ringing declaration of war. Accepted by the entire civilized world, it was as important in international affairs as the sudden declaration of a state of anarchy would be in municipal matters for it put the States of the world on guard that all agreements previously contracted (such as the Nine Power Treaty, the Covenant of the League of Nations) were voidable because subject

to the new and unanimous understanding of the right of self-defense.

The Pact consisted of a preamble, two short articles, and an official interpretation. It pledged all the contracting powers to a renunciation of war in favor of the pacific settlement of all disputes except those involving self-defense. The right to fight in self-defense, the Pact held:—

is inherent in every sovereign state and is implicit in every treaty. That, of course, included all treaties and every sovereign state past, present, or future. Moreover:—

every nation, the agreement continued, alone is competent to decide whether circumstances require recourse to war in self-defense."

The Government of Japan along with other signatory powers accepted the Pact with the *understanding* above, and on that footing it became part of International Law: That every nation was competent to decide for itself what action it should take in self-defense;—and that the right to make that decision alone, existed not only in the Pact of Paris and in every sovereign state but in every previous treaty, whether the Nine Power Pact, the Covenant of the League, or any other international agreement.

Thus it would seem clear that Japan had a right to send her troops into Manchuria in 1931-32. As a matter of fact, Mr. Frank B. Kellogg admitted before the United States Senate that we might order our Marines into Argentina without in any way violating the Pact of Paris. Japan cannot in justice be denied a similar right on the continent of Asia.

But Japan was denied that right; she was blamed for exercising it and tormented to the point of a declaration of war against one of her oldest friends in the community of nations, the United States of America.

The smaller states in the League of Nations forced the issue in 1931-32 for obvious reasons. China, a weak and irresponsible country despite its magnitude, was being given a severe object lesson by little Japan. The weaker nations, therefore, remonstrated as a matter of principle. The larger states with vast interests in China were quiescent. Only the United States among the more responsible governments joined in the futile efforts of the disorganized weaker nations to discipline little Japan.

Why should we thus assume leadership of the anti-Japanese faction of the League of Nations, particularly when we are not even a member? Less than one per cent of all our foreign investment is in China;—our trade with that country runs a considerable annual deficit. There are fewer Americans in *all* China than in a suburb of any large city in the United States. By what logic, therefore, were we anxious to defend irresponsible China, or Chinese bandits, or a bankrupt commercial policy called the Open Door?

III

The key to the whole problem of Japanese expansion and the enigma of American opposition is found in the first important clash of the two rising and expanding empires in a romantically beautiful island kingdom in the Pacific—Hawaii. There, for the first time, Japan had opportunity to see and personally feel the effects of American annexationist diplomacy in the raw, particularly the American way of absorbing an independent kingdom with an air of dignity and self-righteousness.

Japan formally protested on this occasion, and her legitimate protest carried the latent suggestion that any further territorial acquisitions in the Pacific by us or anyone else would not only disturb the *status quo* in that region but would throw the whole question wide open—perhaps, it was hinted,—for the survival of the fittest.

We met that legitimate opposition by dictating the terms on which the acquisition would take place; absolute extinction of all treaties, predominance of American interests. A Hawaiian newspaper described our attitude as being that:—

"The annexation of Hawaii is for the benefit of the Hawaiian, the Latin and the Anglo-Saxon races of these islands. It is not and it does not pretend to be for the benefit of the Asiatic. It is meant as a bar to the Asiatic."

All the while, over one-fourth of the *entire* population of the Islands was Japanese; they outnumbered the British more than ten to one; the Germans more than twenty to one; the French

more than two hundred to one; and the Americans more than seven to one.

"It says these beautiful Isles," continued this inspired editorial, "with their soft climate, and their exuberant soil, with the blue waves lapping their coral girt shores are to belong to the West not to the East. They are to enjoy in freedom the same civilization, have the same lofty ideals, worship the same God as do their brethren of the vast Continent of North America."

IV

The Provisional Government was established by the American-Hawaiian Revolution of 1893 and one of its first official acts was to elect Judge S. B. Dole as President and to send Hawaiian commissioners to Washington to negotiate a treaty of annexation. An agreement was signed on February 14, 1894, but before our Senate could advise and consent to ratification the administration changed and Grover Cleveland became President of the United States.

President Cleveland was elected to office on an anti-imperialist ticket and no sooner was he in the White House than a thorough and exhaustive examination of the Hawaiian situation was instituted. Cleveland's conclusions resulting from this investigation were embodied in a special message to the American Senate on December 18, 1893, that beyond all question:—

"the constitutional Government of Hawaii had been subverted with the active aid of our representative to that Government and through the intimidation caused by the presence of an armed naval force of the United States, which was landed for that purpose at the instance of our minister."

"I mistake the American people," our President continued, "if they favor the odious doctrine that there is no such thing as international morality; that there is one law for a strong nation and another for a weak one, and that even by indirection a strong power may with impunity despoil a weak one of its territory." Consequently, Grover Cleveland not only withdrew the treaty of annexation from the Senate but all the diplomatic correspondence pertaining to the Islands was ordered published; copies of the confidential correspondence were thus made available to Japanese.

On July 4, 1894 (a significant date in American history), the American missionaries, property holders, sugar planters and business men in charge of the Government of Hawaii promulgated a Constitution and formally adopted a republican form of government. All powers having diplomatic relations with Hawaii (including the United States) immediately recognized the new Government, but not until 1897, however, after inauguration of President McKinley, did the Hawaiian Castles, Browns and Smiths dare to reopen the fight for annexation, when a new treaty was negotiated and sent to the Senate of the United States for consideration.

Rumors of the treaty of annexation began to be whispered about, and the Japanese Government formally protested the contemplated action of the United States. It is this Protest and its counterpart in our hasty opposition to recent Japanese activities in Manchuria that is of interest here. The Japanese Protest is valuable also as the key to Japan's subsequent expansion and to her reaction to our Protest when she herself was engaged in acquiring new territory over objections of the United States and other Western powers. By formally protesting our annexation of Hawaii, Japan not only learned the American way of absorbing an independent kingdom but the relation Western imperialism has to the "prior rights" of others and to an Open Door wherever it might be.

The text of Japan's official Protest has never been published. Therefore, it is here given in some detail:—

The Japanese Minister to United States (Hoshi) to the Secretary of State (Sherman)

Legation of Japan
Washington, June 19, 1897

Sir:

... I have now the honor to inform you that I am instructed by His Imperial Majesty's Government to formally protest against the proposed annexation of the Hawaiian Islands to the United States.

This protest is made for the following reasons:—

First. The maintenance of the *status quo* of Hawaii is essential to the good understanding of the Powers which have interests in the Pacific.

Second. The annexation of Hawaii would tend to endanger the residential, commercial and industrial rights of Japanese subjects in Hawaii secured to them by Treaty and by the Constitution and Laws of that country.

Third. Such annexation might lead to the postponement by Hawaii of the settlement of claims and liabilities already existing in favor of Japan under treaty stipulations.

Our formal reply to this strongly worded Protest is interesting when compared to our own trenchant opposition to Japanese activities in Manchuria during 1931-32. In Manchuria we dogmatically refused, in the official language of our Secretary of State,

"to recognize any treaty or agreement entered into which may impair the treaty rights of the United States or its citizens in China."

But in 1897 we blithely informed Japan that:—

"the principle of public law whereby the existing treaties of a State cease upon its incorporation into another State is well defined. . . The history of Europe, of America, of the whole world," we continued, "is full of examples . . it is the fact," concluded the American Secretary of State "of Hawaii's ceasing to exist as an independent contractant that extinguishes those contracts."

But it is a *fact*, Monsieur Saito might be heard to say to-day, that Manchuria has ceased to exist as a part of China. No sane man would deny that. Then does it not follow logically that whatever treaty rights we may have had in Manchuria are thereby extinguished?

Japan's objection to our disturbing the *status quo* in the Orient by annexing Hawaii was countered by an ingenuous argument indeed; the American Secretary of State merely reminded Japan that:—

"the one essential feature of the *status quo* has been the predominant and paramount influence of the United States."

"The union," he continued, "has often been foreshadowed," and at present is recognized as a "necessary contingency."

Had Japan's attitude in 1931-32 paralleled ours in 1897 we would at this hour be engaged in war in the Far East!

Japan did not fight in 1897. She was merely learning the rules of the game. An important Japanese daily wrote the following year when we contemplated annexation of the Philippines:—

"The United States is a great Commercial Power . . as such, she must employ diplomacy, guns and warships, which simply take the place of the 'tricks of trade' commercial travellers and lawyers (use)."

That Japan immediately recognized the new Hawaiian-American government was not enough:—

"But," our minister continued to report, "I have learned positively and beyond all doubt that had not the monarchy here fallen and this Government had remained in the former condition of weakness, it was the intention of the newly arrived Japanese Commissioner to have demanded the same political rights in Hawaii, including the voting franchise for Japanese, as under the Constitution of 1887, would have been exercised by resident foreigners of Christian nations. . . There is occasion for keeping a sharp eye on Tokyo and British and perhaps other foreign intrigues there against our plans of predominance in the North Pacific."

Let it be repeated and with emphasis; this dispatch was published in 1895 for anybody to read who cared to read it,—and the Japanese, new in their part in affairs of the Western world, were eager to read anything that would profit them in their new rôle and teach them our methods of conducting international relations. In it Japanese could read exactly what we were thinking and compare it with what we were saying; and Japan, it must be remembered, is in the North Pacific!

With regard to ourselves these dispatches bear analysis also. In them several things have become increasingly clear which have great importance in the conduct of the diplomacy of annexation. We are an imperial Republic. Our fiat is law wherever we can make it good. Foreigners intrigue. We stand for law and order. We detest monarchy, as is clearly evident wherever our ministers or commissioners in Hawaii refer to it. Further, we will not share

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The Solid South Pays The Bill

MUDDLED MORALS

When is a Pledge Not a Pledge?

By GEORGE BRONSON REA

ONE of the most scathing denunciations of a political party for its record of broken pledges and flouting of the constitution is the challenge to the Administration issued by Colonel Frank Knox, owner of the *Chicago Daily News*, before the Los Angeles County Republican Assembly. In it, he tersely outlines the issue that must cause every American, irrespective of party affiliations, to give serious thought to where the Roosevelt program is leading the Nation. Whether we are to retain that priceless heritage of freedom handed down to us to preserve and pass on unimpaired to those who come after or, whether we are to surrender these liberties under a group of unconstitutional laws that will transform us into a nation of sheep, herded and driven by the commissars of a new dispensation, constitutes a testing of the American ideal of far greater moment than the issues which split the nation in 1860. It may be a crazy idea to think that the Republican Party can defeat appropriations totalling \$40,000,000,000, including \$4,000,000,000 for relief, and nearly two million people on the government payroll, but that in a few words seems to be what it has to fight in the forthcoming presidential campaign.

The NRA, the very heart of the New Deal, has been declared unconstitutional by the Supreme Court, yet President Roosevelt is apparently determined to override the basic law of the land in further legislation of doubtful constitutionality. There is only one answer to the challenge hurled at Roosevelt by the Opposition. The justification advanced must be stern necessity. Roosevelt will go before the people and explain that he was compelled to force through legislation that would permit him to spend freely in order to redistribute wealth more equitably among the people, that the old conditions under which two per cent of the people controlled eighty per cent of the wealth of the nation were provocative of a class revolution, that the welfare of the people is the highest duty of government, and by providing work, food, relief and staving off revolution, he has adhered to the highest obligation imposed by his oath of office. His defense will be that the very existence of the Republic depended on drastic action to correct the evils resulting from Republican mismanagement. He will show that he has done more for the average man than any other previous president, that he has tried to subordinate wealth and business to the common welfare and give labor a square deal. And with a four billion dollar relief fund at the disposal of his political chief-of-staff and two million assured voters—and their dependents—on the government payroll, he will be hard to defeat.

The Necessities of the Case

Repudiation of pre-election platform promises, infringement of the constitution and non-observance of oaths of office will be condoned by a people who have been fed, clothed and housed during the severest test our system of government has ever experienced. Twenty million people out of work carried its own warning. It spelled revolution in any country. That the nation has been saved from bloodshed, civil war, the overthrow of democracy and the evils of communism will probably outweigh any and all violations of the political code. But the unchallengeable fact will remain that solemn pledges and contracts have been broken. The Roosevelt Administration stands convicted of bad-faith, but in breaking its pledges, saved the Nation.

The Constitution is the issue before the Nation. Colonel Knox has sounded the keynote of the campaign. The Union League Club, the citadel of the Old Guard, has swung into line by announcing that it has tried Roosevelt and found him guilty of *an attempt on the integrity of the nation*. Oddly enough, support is given to this charge by Comrade Georgi Dimitroff, key speaker at the last meeting of the Third International held in Moscow. He

said: "*The Communist Party should support the election of President Roosevelt, because his defeat might enable the forces now opposing our forces to give us a body blow.*"

The inference is that Roosevelt is considered in Russia as a friend and protector of Communism, exactly what the Republicans are charging. According to Drew Pearson, the State Department knew all about this Moscow propaganda and did not worry about it. Not until Father Edmund Walsh, Dean of the Foreign Service School of Georgetown University, returned from Moscow with the full quotes from Dimitroff's speech and made a point of calling on the President and inviting his attention to it, did any one wake up. The next day the President sent his blunt note to Moscow, the severest rebuff received by the Kremlin since the Commissars made it their headquarters. Dimitroff's words will have their effect. They will be used by the opposition against Roosevelt. In parenthesis, what a hullabaloo would be made if the spokesman for some other nation, say Japan, should so brazenly interfere in a purely American domestic question as to the fitness for office of the candidate for the Presidency. There would be no surer way of defeating him.

What Does It All Mean?

There are other strange things that will have to be explained. Why, during the 1932 elections, was Roosevelt pictured in Russia as *The Next Communist President of the United States*? Why did young communist guides in Russia ask American travellers *when Comrade Tugwell was going to have Russia recognized*? How did they know that *Comrade Bullitt was going to be our first ambassador*? What is this link between Washington and Moscow? Who are the political leaders in such close touch with Moscow that our every move is known in advance? No sensible American will question the motives of the man they have elevated to the highest honor and given their full confidence, their trust and their love. No President of the United States has ever won the hearts of the people to the same extent as F.D.R. But that trust and confidence cannot be extended to all who surround him, men that the people do not know, men they never heard of before, men who by no stretch of the imagination could be elected to public office. Yet they are in Washington seated in high places, directing the affairs of the nation. This is the load that President Roosevelt is carrying. He will be held personally responsible for their acts and judged accordingly.

Such charges as are preferred by the Republican Party supported by evidence, would ordinarily call for impeachment of the Chief Executive, but with a tremendous Democratic majority in a Congress which voluntarily surrendered its powers, this procedure is out of the question. In other countries less conservative and law-abiding, such issues would be solved by a resort to arms. Civil war would split the nation asunder. In the United States we will settle it at the polls. It will be a real fight, a battle royal. The Rough Rider Publisher of Chicago, if selected as the Republican standard-bearer, has his job cut out for him. As Chief Justice Taney elected Abraham Lincoln to the Presidency, perhaps the Supreme Court will decide the issue of constitutionality before the campaign opens and its decision will elect the next President of the United States.

* * *

It was not our intention to enter into a dissertation on American politics, but to point a moral. We have heard a great deal about "scraps of paper" and the sanctity of treaties since September, 1931. We have seen a great nation compelled reluctantly to depart from the League of Nations under a cloud, because her plea of imperative necessity under extreme provocation was rejected. We have seen this nation denounced as a treaty-breaker and world

opinion marshalled against her, we have heard strident voices clamoring for the imposition of sanctions, for blockades and for war, and we came blessed near getting into one.

The League, the United States and the great mass of public opinion, could see only the strict letter of the law as it was written into the Covenant, the Nine Power Treaty and the Peace Pact. Japan had pledged herself to abide by the terms of these contracts, and the world, rejecting extenuating circumstances, adjudged her guilty. The fact that the Peace Pacts were signed on the understanding that the right of self-defense is "inherent in every sovereign state and is implicit in every treaty" and "that every nation alone is competent to decide whether circumstances require recourse to war in self-defense," was overruled in the case of Japan.

The further fact that Fourteen Resolutions were part of the Nine Power Treaty, in one of which China agreed to reduce the size of her armies and then violated her pledge and trebled their numbers to 3,000,000, that Soviet Russia was not a Signatory and because of this was virtually conceded a charter of license to do as it pleased in Asia, which pleasure took the form of creating an army of 1,300,000, were all overlooked as of no consequence. The world held Japan to the strict text of treaties and adjudged her guilty of trying to break her bonds in order to defend herself. We conceded to China the enjoyment of full sovereign rights and then absolved her from her liabilities to duties fixed by these rights. The fortuitous circumstance that the American navy had fallen far below its treaty strength and the British fleet was confined to home and European waters is probably all that saved civilization from another catastrophic war.

* * *

In an article in the September issue of this magazine, entitled "Anglo-American Co-operation," we drew attention to this inconsistency in the American conception of the inviolability of contract. The war loan agreements were legal contracts, just as binding and sacred as any treaty commitment. Yet every debtor state, with the exception of little Finland, has repudiated or defaulted on its promise to pay. These broken pledges will place an extra burden on the American taxpayer to the extent of ten or more billion dollars. The American people will have to pay for a war, which in its initial stages, did not concern them and which they tried their best to keep out of. Our Government has protested as a matter of routine, but there was no show of indignation, no great moral shock, no marshalling of opinion against the defaulters. Had it not been for Senator Johnson we would probably be still purchasing their bonds for further unlimited millions.

Japan is the only great nation that has never defaulted a loan payment. She has never repudiated an honest obligation. Her credit stands unimpaired. Yet because she was desperate and subjected to the most severe provocation when she resorted to self-defense in Manchuria, we refused to recognize a right accorded to her under the Peace Pact. Rejecting her appeal to extenuating circumstances, stern necessity and the right of self-defense, we held her to the strict letter of the law as interpreted by ourselves, marshalled world opinion against her, and announced that we would never recognize what she had done. Then we rushed into the arms of the financial defaulters soliciting their support against the nation that had broken a political pledge, which did not even concern us directly, but was given to bolster up another state whose limits remain a mere geographical expression.

A Rule that Works Only One Way

Statesmen and politicians who plead the same law of necessity and extenuating circumstances to justify their violation of a solemn pledge, the constitution and the law of their own land, do not hesitate to hold Japan to the strict letter of international treaties. There can be no difference in principle between an international pledge and a sacred national trust. If treaties are the currency of international statesmanship, the touchstone of international morals, then adherence to the law and the Constitution upon which nations base their right to a place in the Society of Nations becomes the measure of their fitness for such intercourse.

"Have you any five pound notes about you? Have you any of those neat little Treasury one pound notes? If you have, burn them. They are only scraps of paper," thundered Lloyd George in his soul-stirring speech to the British people in September, 1914, to arouse them against Germany's violation of the treaty guarantee-

ing the neutrality of Belgium. Well, we have seen the American gold notes called in and payment in gold repudiated. We have seen the dollar reduced in value to sixty cents. The whole credit of the American people was behind these obligations to pay and they are now "scraps of paper." Try and collect their face value from the Treasury.

We repudiate our own sacred obligations and then grow indignant and clamor for the application of sanctions against a nation that in sheer self-defense was forced to act while it had time to do so, to preserve its independence. The American mind seems to place commitments to other nations superior to pledges and the law upon which their own peace, happiness, welfare and permanence of their institutions must be safeguarded and perpetuated. They will anathematize and marshal world opinion against the international treaty-breaker for something which in no way impairs or affects their own security, while their institutions, their wealth, their power of offense and defense are crumbling before their eyes.

Rather than admit the relevancy of such a comparison or that compelling circumstances may have justified Japan's seeming violation of a treaty pledge in the same manner that the fundamental law of their own land has been broken and pledges violated to meet an imperative necessity imposed by exceptional economic circumstances, American ideologists adhere tenaciously to their own narrow interpretation of the law and decline to recognize what Japan has done to avert a catastrophe.

* * *

With the doors of all other countries closed to the entrance of her nationals, Japan settled down to solve her problem of population by peaceful methods. She kept her people at home and created industries that would absorb her surplus and by dint of hard work, co-ordination and rationalization in industry and commerce, built up a promising export trade, especially with her next-door neighbor. Instigated by foreign advisers, China applied boycott after boycott against Japanese goods, waging war within the treaties by "severing economic relations." European and American traders, profiting by this new method of settling international disputes, loudly applauded and condoned the practice.

The loss of her Chinese trade forced Japan out into the world to seek other markets. And she succeeded. British and American traders in China profited as a result of these Chinese boycotts of Japanese goods, but their manufacturers paid for it in other parts of the world. The cry was then raised that the Japanese were taking American and British business away by unfair methods. Mission after mission visited Japan to investigate and report on her industrial system, but they all had to admit that there were no unfair practices, no subsidies, no sweating of labor and, that Japan's success was due solely to better organization and technique.

Barriers Everywhere

Unable to stand the competition, Great Britain, the British Dominions and Colonies and countries under British influence all proceeded to curb Japanese imports by raising customs barriers, applying quotas and exchange compensation duties. Japan's protests on the ground that these discriminatory methods constituted a violation of the most favored nation clause of the treaty of commerce between Japan and Great Britain were of no avail. Other countries have followed the British lead and Japan now finds her commerce penalized almost universally. Even in the United States, a vicious campaign has been waged against "the Japanese menace," notwithstanding that the balance of trade between the two countries for the last two years has been about \$85,000,000 a year in our favor. As long as Japan buys our raw cotton and permits us to load her down with machinery, she is a wonderful country, but when she tries to sell us some of the goods manufactured from these products, we denounce her as "a menace." Sheer necessity, the protection of their economic system and standard of living, require that other countries violate their treaties with Japan. And Japan can do nothing to change the situation.

* * *

When Hitler denounced the military clauses of the Versailles Treaty, Britain, France and Italy proclaimed at Stresa that no unilateral denunciation of an international treaty was to be tolerated. Couched in indirect phraseology, the same position was taken last

year by Secretary of State Hull in regard to Japan's action in Manchoukuo. The three European Powers then asked the Council of the League of Nations to condemn the German Government and to appoint a committee to study and devise economic and financial sanctions to be applied against any state committing such crimes in the future.

Notwithstanding this vigorous stand against Germany, in less than two months we find Great Britain herself an accomplice in the denunciation of the naval clause of the same treaty by entering into the Anglo-German Naval Agreement without consulting France and Italy. The consequence is that France is now highly sceptical of Britain's good-faith and does not hesitate to say so. The Anglo-German naval agreement will, however, stand and within four years, the new German naval tonnage will equal, not 35 per cent of the British total, but a possible 70 per cent in actual efficiency, with France way in the rear of the procession. Yet Britain was also confronted with a dire necessity and adopted the measure which seemed most advisable to cope with it. Who, outside of France, will accuse Britain of violating her pledges and attempt to marshal world opinion against her? Certainly not the vociferous group of bellicose pacifists who would have applied sanctions and plunged the whole world into war against Japan.

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Notwithstanding that world opinion has turned against war as an instrument of national policy, that a new pacifist ideology dominates Western thought and has become the very foundation of American and British foreign policy, the events of the past five years tell us that human nature remains unchanged. We have merely invented a new set of principles to conceal and justify policies essential to our existence and continued prosperity.

Behind all the eloquent effusions about peace, humanitarianism, love of liberty, saving Europe and the world for democracy, upholding the League, and all those other high moral ideals and appeals which for centuries have vindicated Anglo-Saxon resort to war, there has always existed sound, practical reasons of state. The same arguments are being proclaimed to-day; the minds of the peoples are being inflamed and prepared for the sacrifice by the same unchangeable methods. Read again the speeches of Pitt, of Fox, of Canning, of Macauley, of Cobden, of Bright, of Asquith and of Lloyd George and compare them with the utterances of those now high in authority in Britain. The phraseology is the same. The same principles guide. Nothing has changed. Throughout the century one nation after another has become the enemy of world peace from whom it was necessary to deliver Europe.

A century ago it was France, eighty years ago it was Russia, twenty years ago it was Germany, ten years ago it was Bolshevik Russia, to-day it is Italy, to-morrow it will be Germany, maybe, Japan. The world that is to be safeguarded, is always Europe, that is, those nations which line up with Great Britain against the enemy that disturbs the *status quo* or the balance of power that shifts and varies after each war.

America is not so much concerned about any possible change in the picture of Europe. Our last experience has convinced us that it simply won't stay put. The United States, however, is concerned about a possible menace that may come from the other direction. Saving the world for democracy and liberty in the American mind has its own special geographical significance.

The Odds Japan Faces

Japan has her own ideas about the meaning of all these high-sounding phrases and is not deluded. She also sees a menace, but because of her system of government cannot very well invoke the same high moral principles that clothe the diplomacy of the West. She is compelled to be frank and state clearly her needs and fears. Her world is bounded on the East by the waters of the vast Pacific. Up to recently she has feared nothing from this direction. The air programs of the Powers have changed this old sense of security, and she is now a trifle sceptical. On the West she is confronted by a huge continent inhabited by the tribes of a racial division which has been conceded all the rights of sovereignty and equality with the great Powers of the world. This undefined, disorderly state outnumbers her in population at least seven to one, with armies in active service—however inefficient and undisciplined—outnumbering her own twenty to one. North of this Colossus resides another Giant, outnumbering her in population three to one and in armed forces, five

to one, with a special Far Eastern Army equal to her own, entrenched behind strong fortifications all the way from Chita to Vladivostok.

Japan interprets this situation and prepares to meet it in exactly the same way that every nation and government in Europe is now feverishly preparing to meet similar real or imaginary menaces, justifying their activities and expenditures by invocations for the preservation of world peace, the perpetuation of democracy and of liberty, all of which reduced to simple terms, means national or imperial security and continued existence as independent peoples. European nations repudiate and default on their solemn contracts to pay the debts incurred in their last crusade to make the world safe for democracy and prosecute to a finish the war to end wars. But they have sufficient funds to enlarge and mechanize their armies, build huge air-fleets and strengthen their navies. They have money to lend other nations to protect their investments and trade. The law of necessity operates in these cases to override the law of contract. Americans accept their explanation, pocket their losses and tax themselves so that their European debtors can go on defending the cause of liberty and democracy in their own way. These nations are not militaristic. Not by any means. They are all lovers of liberty and champions of democracy. The law of self-preservation absolves them from all other obligations.

But that law cannot be extended to Japan. She has never defaulted on her promise to pay, but was compelled to resort to force in self-defense. Japan could not plead in justification an interest in the preservation of democracy, liberty, equal opportunity and the other empty shibboleths of the West. She did, however, advance a more powerful and compelling plea, the right to defend her institutions, her industrial system, her very life against the steady, relentless march of Communism.

She stood forth as the stabilizer of peace in the Far East, the defender of the Pacific against the spread of world-revolution from a new base and headquarters somewhere on the China Coast. But her pleas and arguments were of no avail. The law of self-preservation and the right of defending principles monopolized by Western statesmen to justify their acts, did not apply. The West signalled "thumbs down" and Japan was condemned. The West then opened its arms to the Communist state, forgave all its sins, invited it to a seat in its highest councils and in general encouraged it to take over the job of carrying out the sentence imposed on Japan. That the sentence has not been executed is due entirely to the armor which protects Japan. If she ever exposes an open joint, the bellicose pacifists of the West will demand that the sentence be enforced.

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Look at Soviet Russia, that bulwark of the League, champion of world peace and disarmament, *sans peur et sans reproche*, now that she is needed to complete the cordon around Hitler. For sixteen long years, American presidents, secretaries of state, heads of chambers of commerce and all our high priests of political purity and international morality, poured out the vials of their wrath on the Communist state that started its career by abrogating all treaties, repudiating all debts and confiscating all foreign property, and then announced its determination to overthrow the governments of all the capitalist states and usher in the rule of the proletariat.

We sat on the side-lines and made no protest while Communism overran Central Asia, planted its emblem in Mongolia and entered into an alliance with Canton to set up a Soviet regime in China. We declined to participate with the other interested Powers in a show of force that would have nipped this movement in the bud in the Yangtze Region. It was none of our concern that from its base in North Manchuria, Communism was laying its plans to extend its influence into South Manchuria and oust the Japanese from their hard-won position. To the pitiful cries of misery and distress that filtered through the wall of censorship to the outside world from the millions of poor, defenseless, despairing human-beings in Kiangsi and Central China, we closed our ears and steeled our hearts. Not until a few thousand Japanese railway guards, provoked beyond the limits of human endurance, resorted to force to defend the property entrusted to their care, did we come out of our trance.

Russia's Change of Front

Only when the Japanese troops invaded the Russian sphere, did Moscow realize that her hand had been called. Only then did she proclaim the abandonment of her program for world revolution

and announce that she would confine her activities to the socialization of the single state. Only then did Litvinoff hurriedly enter into non-aggression pacts with his next door neighbors in Europe to assure the safety of Russia's western front. Only then did he proclaim the Soviet's great love of peace and make overtures to Geneva. The bait held out by Litvinoff at the World Economic Conference that his Government was ready to place orders for raw and manufactured materials totalling a billion dollars with the capitalistic states washed the bloodstains from Moscow and cleansed her of all sin. A billion dollars is a wonderful bleacher.

So the United States recognized Moscow. We repudiated every declaration of policy and principle and embraced as a long-lost brother the state whose character is symbolized by the color of its standard and its deeds. We did this, not because of the billion dollars. That was merely incidental. We did it because we were first and foremost, lovers of peace, because Kalanin informed Roosevelt that "the Soviet Government has always supported disarmament and non-aggression and intended to co-operate with all governments interested in a policy of peace" both in disarmament and economic recovery. Yet this great peace-loving nation in the short space of ten years, from being down and out, outlawed and reviled, had emerged as the foremost military power of Europe! In advocating world disarmament and the abolition of armies, Moscow is at least sincere. It is the only hope for the triumph of Communism.

We have forgiven Red Russia. She is absolved of her sins. She is now one of us. But poor old China, overrun with Red armies, bedevilled by Communist propaganda and subversive doctrines, lies prostrate. Once more, Japan is placed through no fault of her own, with her back against the wall, facing the consequences of ill-advised treaties and the stubborn refusal of the Western Powers to acknowledge the realities. The Delegate of the former outlaw state, responsible for these evils, sits on the Council of the League of Nations, courted, wined, dined and feted by those who only three years ago he was villifying as pirates and bandits. The plucky little fellow who so sturdily defended himself while he yet had time to do so has been convicted, discredited and proscribed. The reformed desperado now heads the posse out to execute the sentence of the Court. And we prate about peace, democracy, liberty and high sounding League principles, with such a picture before us.

Japan's Claim for Parity

Is it necessary to ask why Japan is scrapping the Naval Treaty? With the verdict of the League and the United States standing in the record against her, with the reformed and ennobled Champion of Red Revolution, taking her place in the Council of the League, with no court in existence before which the case could be reopened or appealed, with the high advisers to the Chinese Government counselling their client to hold out against Japan, the forecasts of high American naval officers that when conditions in Europe are stabilized, the Powers will turn their attention to the Far East, with the rapid closing in of air lines from all directions whose military significance cannot be ignored, with America's insistence on maintaining the old naval ratio which, under given conditions, permits the combined American and British fleets to bring pressure to bear on her, with Soviet Russia hurriedly building new strategic railways, throwing up huge concrete fortifications along the Amur and increasing her already swollen Far Eastern armies and air forces, how can the world expect Japan to rest satisfied with a treaty which exposes her to certain disaster?

Is it possible to change this picture? May not the League and the United States have been wrong in their hasty condemnation of Japan? Might not that verdict be reversed if it could be brought before an impartial and disinterested court? If this verdict should be reversed, if the right of the people of Manchoukuo to set up their own form of government be conceded and the new state recognized, would it not tend to stabilize conditions? Would it not convey to Japan that she has nothing to fear from a combined American and British naval and air demonstration in co-operation with a land advance on the part of Soviet Russia? The fear that this verdict will stand and, that in due course, American, British and Russian pressure will be brought to bear on her, is all that influences Japan to hold out for full naval parity. We may have our own ideas of what is necessary for our defense and we are justified in standing pat on our program. But Japan is equally justified in refusing to budge from her position. It is life or death for her.

Such is our world. Such are the inconsistencies in our make-up which together with the mistakes of legalistically-minded statesmen and diplomats, every man, woman and child will have to pay for in tears and suffering. The line between national and international morality is clearly drawn. We will piously find excuses and justification for our own sins and then sanctimoniously denounce another nation for similar acts committed under the same extreme provocation.

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WORSE ECONOMICS

Why Not Recognize Manchoukuo?

THE section which will settle the issue in the impending political struggle between conservatism and "radicalism" in the United States, is the Middle West, the agricultural center upon which the real prosperity of the nation depends. The standard-bearer of the Republican Party will undoubtedly be chosen from this section and Colonel Frank Knox, owner of the *Chicago Daily News*, makes a strong bid for leadership in one part of a speech he made at Los Angeles in which he outlines a program for the better protection of the farmers. He suggests, in effect, the extension of the protective industrial tariff to the farmers by paying them an export bounty on their surplus crops. Although this is suggested in a purely exploratory spirit, there can be little doubt that the idea faithfully reflects a carefully considered program that will become part of the campaign. He says:

"In the first place, I believe no sound and permanent solution of the farmer's problem is possible without resort to a market for surplus farm commodities outside our borders. This involves a persistent, intelligent and well-thoughtout campaign to promote a balanced world trade between the United States and countries abroad, chiefly those which have not reached out stage of economic development. To argue that there is an over-production of food in a world where one billion six hundred million people are living to-day just above the border line of starvation, is to be guilty of economic blindness. American business genius has found its way before into foreign markets. The old Yankee trading spirit is by no means dead. New markets can and must be found.

"Second, and of more immediate importance to the farmer, is a proper recognition of the tremendous strides made by organic chemistry in the last five years in the utilization in industries of commodities grown on farms It is only a few years since industry discovered the soy bean. To-day forty derivatives useful in industry have been found in this single agricultural product. This year one automobile plant in Detroit will alone consume the product of 100,000 acres of soy beans. If we chose to do so, we could substitute for the linseed oil, which we import very largely for use in paints, the oil of the soy bean, producing exactly as high a quality of paint, and supplying the farmer of America with a hugely increased market.

"Hitherto, we have imported all of our hemp. Within the last year American chemists have discovered a chemical principle which separates the hemp from the rest of the plant speedily and cheaply . . . within a few years all of our hemp products will be manufactured from American-grown hemp . . .

"We import immense quantities of tung-oil from China. Experimentation has demonstrated that the tung tree can be grown in our southern states, and is being grown there now, thus affording employment for land formerly used for cotton, the demand for which—under the asinine cotton policy of this administration—is rapidly disappearing."

Colonel Knox then goes on to point out that the blending of alcohol with gasoline will lend itself to the conservation of our diminishing oil reserves and provide another valuable outlet for surplus farm products. Last year we used 17 billion gallons of gasoline and if this could be blended with ten per cent alcohol, 1,700,000,000 gallons of alcohol would be needed, requiring 700 million bushels of corn, or 650 million bushels of wheat or two billion bushels of potatoes. The possibilities of using surplus crops along these lines are limitless.

Until these long-range remedies are given effect, he suggests as a measure for immediate aid to the farmer, that the government

pay an export bounty on surplus crops shipped abroad. This, he emphasizes, should be recognized as a temporary expedient to supplement farm income while the farmer is learning to reduce his unit costs and industry is learning how to use farm commodities in manufacturing. He then goes on to say that the industrialist who has profited by and has been protected by the tariff for fifty years can ill afford to criticize this proposal. It is, he admits, frankly, a subsidy with the farmer as the beneficiary of that policy. The thing works both ways and American business will not deny American agriculture, in a time of extremity and need, the same help it sought and secured in its own infancy when it needed protection against low cost foreign industrial products.

Another Interpretation

Colonel Knox expounds good understandable protectionist principles upon which the nation from a purely agricultural producer has risen in half a century to the foremost industrial power of the world. It may also work out in agriculture but, with a knowledge of how it will affect certain other parts of the world, we incline to the belief that instead of creating new markets, it may have the opposite effect, destroying those we now enjoy and raising up stiffer competition and bitter animosities in those countries "which have not reached our stage of economic development," that is to say, purely agricultural states.

Can we have our cake and eat it too? How is it possible to promote a balanced world trade between the United States and these undeveloped countries if, in addition to their industrial needs, we insist upon supplying them with their agricultural requirements and competing with them in world markets for the disposal of their surplus crops? To do this successfully against their cheaply-produced commodities, American mechanical genius will be called upon to convert the farm into a mass-production industry. As the farm is more and more mechanized and our highly specialized industries become more and more efficient, how will the surplus labor thus liberated be profitably employed? The protective tariff has built up our industries and the labor now displaced by the machine has been forced back on the land, but if the same methods are now to be employed in industrializing the farm, where will we find employment for those crowded out by this system? The machine in industry is taking the work away from man. It will do the same on the farm. Unless new scientific discoveries create new industries and enterprises, much of that surplus will be absorbed in distribution. What chance then have the ox and buffalo-power agrarian states of exchanging their crop surplus for our manufactured goods? We cannot have it both ways. We cannot load them down with manufactured products and then dump on them our surplus farm crops. That is no way to build up a balanced trade.

There are many parts of the globe where climate, soil, labor and other special conditions combine to produce certain staples better than anywhere else. Within these favored sections there exist localities which give the maximum of results. Nature has invested these regions with a practical monopoly of certain commodities upon which the welfare, happiness and prosperity of their peoples are based. Deprive them of the full enjoyment of these God-given advantages and take away their means of gaining a livelihood and we disarrange their whole economic system, impair their purchasing power and ruin a profitable market for manufactured goods. This has been done in many places. Science and chemistry in the advanced countries have in many instances deprived the backward peoples of natural advantages.

Colonel Knox invites attention to the consumption of soya beans in one automobile factory alone, grown on 100,000 acres in Michigan. That is only the beginning. Within a decade, American farming machinery and technique will have developed this crop to the point where our farmers will be supplying the requirements of the home market and then because it has become essential to the life of the community, the farmers will demand an export bounty that will enable them to dump their surplus abroad in competition with the product of Manchoukuo. Here was a crop brought into prominence through the initiative and enterprise of the Japanese. They created a world-wide demand not only for the bean itself, but for its oil and cake. The South Manchuria Railway laboratories discovered the bulk of the forty odd by-products ranging from "mother's milk" to shoe-polish, which makes this humble legume one of the most valuable crops in the world. The growth,

development and prosperity of Manchoukuo is bound up in this staple. Railways and highways, steamships, oil mills, storage tanks, elevators, port works, coaling facilities and other large scale improvements have been completed at great cost in order that this crop could be planted, harvested and transported economically to the world's markets. Millions have been invested to lower the cost of production and make this crop the mainstay of a nation.

Soya Beans and the Tariff

During the War, the United States combed the world for vegetable oil supplies. We encouraged Manchoukuo and the Philippines to produce more and more to meet the insatiable war demand. They responded. Japanese capital erected up-to-date extraction plants, enlarged old ones, built refineries, constructed new wharves, installed special loading devices, made huge capital investments in railway extensions and special rolling stock and the farmers were assisted by the banks to enlarge their holdings and plant more beans.

For three or four years the sun of prosperity shone on Manchuria. Then came the Peace. And with it, arose the cry of the American farmer against this influx of a "coolie-grown" product that was underselling the oil extracted from the domestic cotton seed. The inevitable tariff machine revolved. Another row of bricks was laid on the tariff wall and the huge Japanese investments in Manchurian oil mills were wiped out. The plants were shut down. But little by little the Japanese built up a profitable trade in soya beans with Europe to the point where before the depression Manchoukuo was exporting about three million tons. Then Germany suddenly developed a protectionist streak and imposed a high tariff which cut off a market for a million tons of beans at one stroke.

Like those of other nations, the farmers of Manchoukuo are struggling heroically to weather the depression, looking forward hopefully to a return to world normality and comparative prosperity through an increase in the market price of their one staple. Manchoukuo can supply the world's requirements of soya beans cheaper than they can be produced anywhere else. Here we have one example where soil, climate and low cost of labor added to the most modern equipment for handling, transporting and shipping, gives to this section of the globe a natural monopoly of an essential commodity. The welfare of thirty million people depend largely on retaining this advantage. The pressure of population and the keen struggle for a mere existence, makes human labor in China cheaper than the most efficient labor-saving appliances. Introduce the machine in China, and the great mass of the people will starve. Because of the depression and decrease in the world market price to nearly half, Manchoukuo has a large surplus of soya beans, which the farmers have been compelled to burn while cattle in the United States were starving for lack of fodder.

American industrialists have now discovered that they can utilize the by-products of the soya bean, but instead of purchasing the raw material in the market where there existed a huge surplus, they have encouraged the production of the bean in their home state, where it can be planted and harvested by machinery at a low cost. This is good and commendable economics, but there is no doubt as to where it will lead. There was a prospect that some kind of a reciprocal trade might be made with Manchoukuo that would have permitted our industrialists to exchange their manufactured products for a stipulated tonnage of soya beans and bean cake for cattle food. If we now grow the soya bean in the United States and it becomes a profitable crop, as it must, the time is not far distant when the farmers will supply the requirements of industry and be clamoring for that export bounty that will enable them to dump their product in foreign markets in competition with the Manchoukuo staple. Under such conditions, all hope of building up a balanced trade between the United States and Manchoukuo is out of the question.

But that is only the beginning. The thirty million farmers of Manchoukuo must also have food, warm clothes, solid houses and fuel to carry them through the long, sub-zero winters. At current prices for their main crop they hardly eke out an existence. Deprive them of a market for this crop and they will be forced into other lines of agriculture. Northern Manchoukuo is an ideal wheat country. Its western plains will support an enormous cattle industry. In its southern parts it can grow cotton and tobacco. It is a fine beet country, good soil, plenty of sunshine and all the conditions for the profitable manufacture of beet sugar. It can supply the Far East with this food. The loss of their soya

bean markets is compelling Manchoukuo to grow wheat on a large scale. These large-scale farming enterprises also can use up-to-date agricultural machinery and process the wheat in the mills of Harbin and, with shorter rail and steamship distances can land their flour in any port of Japan or China at prices lower than the American or Canadian product. We are coming to that. It is being forced on Manchoukuo by sheer necessity.

A Look into the Future

Slowly, very slowly, banditry is being suppressed in Manchoukuo. Order, safety and freedom from outrages is being brought to the land. It took fifty years—from the 'forties to the 'nineties—to bring the law to all parts of our own West and make it safe for the settler. It will not take that long in Manchoukuo and the Mongolian grass lands. The time is not far distant when the rolling plains of Mongolia will be covered with horned cattle and a new breed of sheep, supplying Eastern Asia with beef, mutton, dairy products and wool for the mills of Japan. It will take time, but with Japanese energy and capital, and determination to maintain law and order, it will come. The loss of the soya bean crop to Manchoukuo will have its repercussions on many other lines of American activity. What the American farmer in one state will profit from growing soya beans will be offset by the loss of a valuable wheat market by the farmers of other states. In the end we will lose more than we will gain.

But that is our way. We are concerned solely with our own prosperity and selling our goods to other peoples. Our conception of the square deal hitherto has been an equal opportunity to sell, not to buy. We will go to war for this one way doctrine of the Open Door and then do everything possible to deprive our customer of the power to purchase the goods we fought to sell him. Colonel Knox mentions the tung tree that several years ago was introduced in our Southern states, where it has thrived and will soon supply all the tung oil our market will consume. After which, through an export bounty sufficiently high to cover the differential in the costs of production, we will ship the surplus abroad and take this business away from certain favored sections of central China which Nature selected as the habitat for this tree. There is nothing wrong about this. It has been done so often in the past that it is now considered as essential to world welfare.

The United States once enjoyed a monopoly in supplying the world with raw cotton. It is still our most important and most profitable export crop, that is, if the economic experts directing the affairs of the nation will permit it to be. But our principal foreign customer set out to free itself from the American monopoly and to this end has subsidized and encouraged in many ways the planting of this crop in other parts of the world. India, Egypt, the Soudan, Brazil, China and other territories have muscled in and taken their percentage of profits from this crop, and the cotton war is only commencing.

There are many high and solemn principles invoked by Great Britain to justify her firm stand in support of the League against Italy, but somewhere in the background of the picture the grinning face of the Ethiopian can be discovered peering through the diplomatic woodpile. And the wool on his head is long-stapled, superfine cotton grown in the Soudan and Egypt by the waters discharged into the Blue Nile fed from the reservoir in the Ethiopian mountains called Lake Tsana.

Britain's Stake in Africa

The bulk of England's high-grade, extra-fine textiles which monopolize world markets in this line of goods, are manufactured from this long staple cotton of Egypt. Anything that might remotely endanger this last hold that Britain enjoys on the textile trade of the world becomes a menace to the very life of the nation. So we see Britain backing the League and rallying world opinion behind her to prevent the source of this wealth being cut off by Italian possession of Ethiopia. Britain has invested too much capital, time, labor and life in subjugating these regions and building Nile dams, barrages, irrigation systems and other improvements to provide her mills with Imperial-grown raw materials, to now stand aside and witness control of the water which brings life to this desert, pass into the hands of another European state.

In a recent article, Stephen Lauzanne, Editor-in-Chief of *Le Matin*, seeks to find the answer to Britain's sudden change of front in regard to Ethiopia. After encouraging Italy to settle in Somali-

land and Eritria, signing treaties recognizing large spheres of influence in Ethiopia for Italy, virtually authorizing her to establish control over the largest part of the territory, until Italy honestly, sincerely and candidly believed that she was supported by Britain, at least, in Eastern Ethiopia, what is the explanation for her present attitude? He points out that Ethiopia has not changed its place on the map, it has always been near Egypt and on the border of the road to India. And Great Britain who is very clear-sighted when the road to India is at stake, never saw any danger in Italy fixing herself near Egypt and the Red Sea. She did not see any danger only two years ago. How is it then that she sees one to-day, that she now rises fierce, warlike, inexorable? This, he concludes, is the riddle that History will decipher sooner or later.

May not the answer lie in the threat to Britain's cotton empire in the Soudan and Lower Egypt? In the face of severe Japanese competition in the lower counts, Britain's supremacy in the textile industry must more and more depend upon her ability to hold her place in the finer materials. This means Egyptian and Soudan cotton. It may be that the cause of peace, of democracy and preservation of the League has impelled Britain to take such a belated and firm stand, but somewhere in the background we might find the answer to the riddle propounded by Lausanne in the one word, COTTON.

Let us turn to China. The establishment of law, order and security, so that the farmer can work his lands unmolested, and the use of proper seed and up-to-date methods of cultivation, will enable China in a few years to still further cut down America's cotton lead and supply her own and Japanese mills with this staple. The Japanese have signified their willingness to assist them in this with capital. Now the Japanese would prefer to purchase their raw cotton requirements in the United States, the best customer for their own staple commodity, and continue to carry on what up to the last two years has been a perfectly balanced trade. But American idealists will not have it that way. They place the prospects of an immensely profitable future trade with China above the returns from an established present day trade with Japan. We are sticklers for adherence to the moral codes we have set up to guide the rest of the world. Because Japan did something which we did not understand, and therefore could not approve of, we wrote notes of condemnation, threatened her with sanctions, boycotts, blockades and all the evils our bloodthirsty pacifists could think of. We have, in effect, imposed moral sanctions against her and announced that we will never recognize what she has done. Then we influenced the League to endorse our stand. There is every evidence that the issue has not been allowed to die. Great pressure is being brought to bear on China to hold out against Japan. Under no circumstances must she recognize Manchoukuo, because some day the League and the United States will enforce their verdict and compel Japan to undo what she has done.

Even as we write this article, the United Press reports that Secretary of the Navy, Mr. Swanson, has issued instructions to speed up the nation's big naval construction plan, that 48 naval sea-planes will make a mass flight from Honolulu to Midway and that this will be extended to Manila, "some of these days." Meantime, Rear-Admiral Yates Stirling, in the *Navy League Magazine* forecasts that the Western sea-powers will attempt to regain their influence if and when the political situation in Europe is stabilized. "Then, it is likely," he says, "that the great Powers with interests in the Orient, will not be so willing to refrain from having a voice in Far Eastern affairs."

Forcing Japan's Hand

Now here again we see a nation whose main source of wealth is in her textile industries. But she must import the raw material, largely from the United States. Should this source of supply be cut off or interfered with by the application of sanctions or any other punitive measures voted by the League, Japan would face not only serious internal difficulties but the loss of her foreign markets. It is superfluous to speculate on who would profit from the imposition of such sanctions; certainly not the United States. But American public opinion is the loudest in its condemnation of Japan. The nation who would profit most is rather inclined to recognize what she has done. Japan can take no chances against such contingencies. She is determined to seek some source of supply nearer at home that cannot be cut off by boycotts, sanctions, blockades or foreign navies. So she is going into China. And here again, we are only at the beginning of a story. Japan's cotton

co-operative program in China if permitted to develop, will, in a few years, deprive the Southern States of its best customer. Between the group of theorists directing our internal economy and the idealists directing our foreign relations, the trade outlook is not very promising.

The present administration, deriving its main support from the cotton states, apparently has not the courage to disavow policies inherited from its predecessor. In fact, it has retained the statesman responsible for these policies as a sort of special presidential adviser on Far Eastern affairs and is committed to his program. After all our notes, denunciations, marshalling of world opinion, co-operation with Geneva and our final verdict of disapproval endorsed by the League, we cannot very well take the initiative in recognizing Manchoukuo. And the other great and little Powers, out of their "high regard and respect for the great moral principles involved" will do nothing to help us out of the hole we have dug for ourselves. We may let the matter drop or, who knows, perhaps the galaxy of High Advisers to the Chinese Government are inspired, when they counsel their client to hold out against Japan, that some day the League and the United States will enforce their verdict. Well, a Japanese commercial mission has just returned from Brazil where it arranged for the purchase of a stipulated amount of raw cotton on a reciprocal trade basis. It is estimated that Brazil is producing raw cotton to an extent that will enable her to have a surplus for export of 600,000 bales a year. Japan's purchases in the United States averages 1,800,000 bales annually. Any reasonable reciprocal trade arrangement between Brazil and Japan could easily reduce the latter's purchases from America ten to thirty per cent, with that much consequent loss to the Southern cotton planter.

If Japan now goes into China and assists in establishing law and order in the northern provinces, distributes good seed to the farmers, teaches them to cultivate, gin and bale their product properly, and then offers an assured market at world prices, it will not take many years to reduce her purchases in the United States to a minimum. Japan can easily free herself from dependence upon the country responsible for League policies and the menace of future sanctions. As long as the Stimson Non-Recognition Doctrine is not disavowed and the fear of sanctions is permitted to disturb the mind of the Japanese, they will continue their efforts to free themselves from dependence upon our farmers for the staple upon which their industrial life and ability to trade so largely depends. Yet, faced with the possible loss of this market, no American statesman, senator or congressman dares suggest that we surrender our right to sit in judgment on other nations and deliver verdicts based on our own interpretation of treaties and the law. We are stubborn people where "principles" are concerned, and we are willing to pay for it. If Japan carries out her program, the South may have cause to remember the price it had to pay for our adventure in high international morality. And the joke of it all is that the nation we sought to protect will be the one who will profit from our undeviating adherence to the path of rectitude. In less than a decade, China will laugh at us for being so foolish.

The Story of Beet Sugar

We are an exceptional people. Given a crop or an industry that under a high protective tariff will create enough votes to support a lobby and wield a club in Washington, the interest of the nation as a whole becomes subordinated to its influence. If the industry provides work and in time is held to be absolutely essential to the welfare of a certain community or state, it becomes a permanent fixture in our national economic system. An outstanding example is the beet-sugar industry, fastened on the country behind the tariff originally designed for the protection of the refiners and which now dictates and dominates politics in Washington to the point where we are withdrawing from the Philippines for fear that its principal crop will further menace the domestic industry. The beet sugar interests have ruined Cuba and if they had their way we would withdraw from Hawaii and hand over this outpost that guarantees the security of the Pacific Coast, to Japan. Our whole miserable failure as a colonial power is due entirely to the ceaseless and tireless activities of the beet sugar lobby ever since they first influenced Congress to limit the corporate ownership of land in the Philippines to 1,000 hectares and then had the Asiatic exclusion laws extended to cover this Asiatic territory.

We protected the infant beet sugar industry, but have paid for it a hundred times over by the increased price the nation has since had to pay for its rubber. Had the Philippine Land Law not been on the statute books, Mindanao, Palawan and the southern isles of the archipelago would have been the preferred location for rubber plantations. During the height of the rubber boom in 1907, when investors in the Far East were subscribing millions to the shares of the Malayan rubber plantations, several American promoters tried to float similar enterprises in the southern Philippines. But no sane man would put his money into a scheme where the company was restricted to 2,000 acres and the importation of dependable Chinese labor was prohibited. So Malaya got the capital and Britain's rubber empire grew to its present importance at the expense of the American people who desired that nothing should disturb the profits of their beet sugar barons.

Colonel Knox mentions that American chemists have discovered a process that will separate the fibre from the hemp stalk speedily and cheaply and that within a few years all of our hemp products will be manufactured from American grown hemp. It is hardly possible that the process applies to Manila hemp or "abaca" which, as we understand it, is native to the Philippines, another instance of a natural monopoly that soil, climate and other conditions gives to these Isles of the Southern Seas. He probably refers to the maguey or sisal plant, a native of Mexico, which can be successfully and profitably grown in our south-western states. Assuming, however, that chemistry can do this with maguey it may also be possible to do the same thing with abaca and as this plant cannot be grown in the United States, the new process may work out in favor of the Philippines, as sisal can never supplant Manila hemp for the making of high-grade rope.

How to Destroy a Market

If it can be made to do so, and the United States undertakes the production of hemp on a large scale, what then becomes of the future prosperity of our Filipino wards, dependent on this plant for one of their main sources of wealth? When we kill the market in the United States for Philippine sugar by the gradual withdrawal of the duty drawback, bar out Philippine tobacco by our high tariff and then deprive the Islands of the benefits from the one monopoly that God and Nature have endowed them with, and our mechanized agricultural products are conceded an export bounty, where will the poor Filipino obtain the money to purchase the goods we hope to sell him? After we have driven Japan in sheer self-defense to seek her supplies of raw cotton from China on some kind of a co-operative economic plan or reciprocal trade arrangement and the Chinese are purchasing their requirements of manufactured goods from Japan, what becomes of all those great profits from Pacific trade we have talked so much about and which at times we have even seemed willing to go to war to assure?

Ponder over this. For many years American exports to China were principally oil and tobacco. Then the erection of textile mills in China by Japanese and Chinese capital, not American, added raw cotton to the list. Then wheat came along and these four staples now account for sixty per cent of our exports to that country. If our geologists are correct, it will not be long before we may be compelled to place an export embargo on petroleum and its products.* Unless new reserves are discovered, ten years is probably the limit of our profitable oil export business with China. American tobacco long enjoyed a monopoly of the China market but the enterprising company which controlled this business, wanted a cheaper product to mix with the Virginia leaf to manufacture a cigarette that could be sold at a profit to the Chinese coolie. So they brought over American experts and seed and taught the Chinese farmer how to raise Virginia tobacco. The province of Shantung is now covered with tobacco farms. The province of Honan is capable of growing all the tobacco requirements of the Far East. Given law and order, it will do so.

Without access to essential data, it is difficult to state accurately just how far the introduction of American leaf and methods of cultivation in China has contributed to the decline of prosperity in the tobacco growing states of the South. The total tobacco importations into China for 1934 was valued at \$34,000,000 (say \$11,000,000 U.S.Cy) while the tax collected on rolled tobacco

*The executive committee of the American Petroleum Institute reported on November 13, that "no petroleum shortage is likely for 25 years, after which there are unlimited reserves of coal and oil shale from which to make substitutes."

of all classes for the same year was \$71,000,000 (say \$27,000,000 U.S.Cy). At one time American tobacco sales to China was near \$30,000,000 U.S.Cy. But it was too expensive to make into cigarettes that the laboring classes could afford to purchase. So we brought over a group of Tar-Heel boys and sent them to Shantung to teach the Chinese farmer to grow tobacco. That was about twenty-five years ago. Old-China-hands can remember when that genial Virginian with the soft southern drawl, J. A. Thomas, blew into China from India and Australia and how in a few years he had taught the Chinese how to smoke cigarettes and built up an enormous business for the American Tobacco Company. They will remember how, at the height of the Chinese boycott against American goods in 1905, Mr. Duke, the American Tobacco King, amalgamated his export business with a group of British cigarette manufacturers and incorporated the new concern under British laws. It was a great stroke of business. It guaranteed to Americans the supply of the raw material while the British took over the manufacturing and merchandizing end which carried with it an assured protection under the Union Jack which the Stars and Stripes would not extend. So to-day, American tobacco interests in China are controlled by a British corporation.

As a profitable business partnership it has been a phenomenal success. In any question calling for diplomatic support, the enterprise is automatically assured of joint British and American pressure. But the fact remains that it is legally a British corporation, controlled and directed from London and, that it has become the strongest and most influential British enterprise in the Far East. Its main concern is to assure profits to its shareholders and, although preference will always be given to American leaf in those high-grade markets which demand the best quality, it is hardly reasonable to expect that it will sacrifice profits in a country like China by confining its raw material to the high-grade American product, when the same leaf can be cultivated from American seed by Chinese labor and made into a cheap grade of cigarettes within the purchasing power of the Chinese masses. Here we have an example of how the rule works the other way, how Americans surrendered their most profitable export market because they could not rely on Government support in times of stress, and how as a result of all this, it is going to become more and more difficult for the Southern tobacco growers to hold their own in the China market.

Another interesting side-light on this is seen from a brief glance at the incomplete Japanese tobacco statistics. The figures for 1932 show that Japan's imports of tobacco for that year were valued at only Y.5,000,000 (\$1,000,000 U.S.Cy) while the sales of manufactured tobacco of all classes for the same year amounted to Y.129,000,000 (\$26,000,000 U.S.Cy). In 1934, Japan's imports of leaf tobacco was Y.8,411,000 (\$2,800,000 U.S.Cy).

Japan's Finance Ministry recently published a report in which it was stated the public in Japan smoked 36,631,198,000 cigarettes and 49,079,949 pounds of cut tobacco in the fiscal year of 1934-35, valued at approximately Y.306,000,000. And more than 140,000,000 imported cigarettes were sold in the country. There is a market worth having but it is not for the American farmer. That hundred million dollar business is what we might have retained a large share of had we been more solicitous for our own welfare than in uplifting the farmer of the East. What Japan has done with tobacco will be more than trebled by China.

Peanuts and China

Fifty years ago, the Italian peanut vendors who cluttered the streets of our Northern cities with their push-carts and whistling steam-roasting machines, procured their supplies from Virginia. Some kind-hearted American missionary introduced the peanut in the province of Shantung and to-day that province practically supplies the world with this edible and its oil. The Japanese are specially fond of roasted peanuts. They call them *Nanking Mame*, that is, a "Chinese bean." As we did to Virginia with the peanut, so we will do with tobacco.

Colonel Knox says that the old Yankee trading spirit is by no means dead, that new markets can and must be found. Well, here are instances in which the old Yankee trading spirit opened up markets for three of our staples, and the result. We will lose the cotton markets of the Far East because our League enthusiasts and ideologists insist upon meddling in matters which do not concern us; and the tobacco market will go because in the first place

we did not have the gumption to protect it in a crisis and secondly because we then sent our experts and supplied them with the seed that has enabled our largest and most profitable customer to grow his own leaf. Then the dear missionaries did their share in uplifting and improving the condition of the Chinese and Virginia lost the ground nut monopoly. Ponder over it and then perhaps Colonel Knox will tell us how Yankee trading superiority can win out against such a combination of disinterested benevolence. By the time the South loses a \$130,000,000 cotton market, \$30,000,000 in tobacco and the few millions already gone in peanuts, where will it find new outlets to counterbalance this loss? The old Yankee trading spirit will get us nowhere without constant injections of old Dr. Knox's celebrated rejuvenating elixir.

American farmers will grow soya beans and Manchoukuo will plant wheat, cotton and tobacco and go into cattle and sheep raising. China will also cultivate cotton and tobacco and exchange these commodities for Japanese manufactured goods. Japan is now practically self-sufficient. She can manufacture all the materials required for the development of China. They may not come up to American specifications and standards but they will be good enough for the service required, and cheaper. Think it over. What will America sell to China and Japan ten years hence? Possession of the most powerful navy in the world cannot change the basic economic conditions in the Far East in our favor. If we cannot hold our supremacy in this trade by successful war, what then can be done to save that part of it which we are in the most favorable position to supply against all competition? We must expect to lose the major part of our wheat and tobacco exports to these countries. American oil firms may continue in business by importing and distributing supplies from other producing fields. That leaves the one commodity essential to the continued prosperity of our Southern States, Cotton.

What Can Be Done

How can we stop the present trend on the part of Japan to purchase her requirements of this commodity in other countries and build up a near-by source of supply in China? There seems to be only one way to alter Japan's program and that is, to eliminate the causes which have forced her into it. In its last analysis, it means a reopening on our part of the case against Japan and Manchoukuo and a reversal of the verdict arrived at by a former Administration. It means recognition of the fact, that the Empire of Manchoukuo exists. It means a return to the original recognition policy laid down by the Fathers of the Republic and a further re-declaration of the fundamental American principle conceding to any people the inalienable right to rebel against misrule, oppression and injustice and set up their own government, whether assisted from the outside or not or whether carried out by a majority or by a minority of the people solely concerned. It means that we must reconsider our whole attitude towards these Far Eastern problems in the light of old precepts and new conditions.

If we meet Japan half way and admit her right under the treaties to resort to self-defense and define that right in her own way, without setting ourselves up as judge of her actions, we can save that valuable cotton trade. If, however, we adhere to the course advocated by the High Advisers to the Chinese Government and our Big Navy-ites to wait until the situation in Europe is stabilized and then co-operate with the League Powers in bringing pressure to bear upon Japan, we will first have to build up our fleet to the required strength and then in time, in combination with others, we may force Japan to accept our viewpoint. The cost of imposing our verdict will be tremendous, but it will never save our cotton market in either China or Japan.

The law may or may not have been broken. In our humble opinion, it has not. Assuming, however, that it has been broken, then, on its face, it was a bad law and the sooner the Nine Power Treaty is abrogated, the better. It is axiomatic that no treaty can preserve peace indefinitely which is incapable of being sufficiently modified to meet new conditions and changing necessities. Outside of the Peace Pact, no treaty to which the United States is a contractant gives to her the right to interfere in a situation that has been permitted to grow into its present ominous proportions, especially as these conditions were made possible because of our own interference in affairs we did not understand. The present tense situation in Eastern Asia between Soviet Russia and Japan is traceable directly to our armed intervention in Siberia,

to the forced abrogation of the Anglo-Japanese Alliance and the signing of the Nine Power Treaty, holding Japan fast to her commitments while permitting Soviet Russia to do as she pleased in Asia. In our sympathy and enthusiasm for China and the hope of great trade rewards, we brought this menace upon Japan. If we have any sense of decency, of fair-play and sympathy for the under-dog, we cannot now deny to Japan the right to take such measures as she deems most appropriate to extricate herself from the trap we set for her.

American recognition of Manchoukuo would materially assist to undo some of our past mistakes. The Japanese or Manchus do not insist on this. They have never carried on a propaganda campaign to influence us to reverse our decision. But, like the abrogation of the exclusion act, it would be a delicate acknowledgment on our part that we might have done Japan an injustice. At least, it would assure to our farmers the enjoyment of a market so essential to their continued prosperity. We do not have to do this. Japan can bring no pressure to bear to compel us to change our viewpoint. We can continue to stand on our one-sided interpretation of the law, reject the right of Japan to resort to self-defense and refuse to recognize what she has done. The sanctity of treaties, national honor, so-called, adherence to the new post-war code of international morals devised for the benefit of the victors in that war, may decide us to build battle-ships and join with the League Powers in the enforcement of the new code. We may succeed. We may, in the end, enforce respect for our verdict, but the bill will be paid by the Good Old Solid South. Perhaps there is a poetic justice in this, too. We may wake up from our day-dreams of greatness to find ourselves hugging the Dutch-wife of exemplary virtue while that fickle jade Prosperity has forsaken us and eloped with a more wide-awake and practical admirer.

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A TIME for STRAIGHT THINKING

WITH the lessons of the World War and subsequent experience with European diplomacy and propaganda methods, it is to be expected that Britain's sincerity in the present Italo-Ethiopian dispute will be questioned and explanations of her policy carefully scrutinized, weighed and judged in the light of past events. Like the individual, each nation has its own characteristics and personality. To understand hereditary national character, aims, purposes and aspirations, it is essential to have an intimate knowledge of the history of that nation.

Britain's diplomacy and national policies over the centuries have been consistent in their main objectives. The maintenance of a balance of power in Europe and safeguarding her security by control of the surrounding seas and a fixed resolve that the opposite shores of the Channel and the North Sea shall never be brought under the control of a single great military and naval power, has fixed the policy of Britain.

These old basic essentials of security have, however, changed. The evolution of aeronautics has compelled Britain to advance her strategic frontiers to the Rhine. Her far-flung empire and half way round the world trade routes demand adequate protection. The new German war-fleet in the North and Baltic Seas, Italy's rise in the Mediterranean to where she has nearly attained equality with France, and with her submarines, destroyer squadrons, aircraft and mines, together with a strong military position in Libya, challenges Britain's traditional naval supremacy in this Sea, the control of Egypt and upsets the strategic balance in Europe.

Despite an outward show of friendliness, France and Britain are as far apart as the poles in their views. Co-operation against Italy is made possible only through French fears of Germany and the imperative necessity of British naval support in the conflict which looms ahead. Any sudden shift in the scene may disclose Italy and Germany joined together in a new understanding. History tells us that the European drama is a constant and bewildering shifting of scenes with the grand finale of each act disclosing a new intermingling of national colors, of new groupings, new friendships, engagements, partnerships, marriages and general jubilation over the great event.

Britain is the League

Britain is again witnessing the end of an act on the European stage that leaves no doubt in her mind as to what it may all lead to. She very foolishly permitted her fleet to lag behind and unless she

can now hold the situation in check until she catches up and with a new fleet maintain the old balance of power, she is headed for trouble. She can have no illusions about the League, for in the last analysis, Britain and her sea-power constitute the League and what it stands for. The League as a moral force may be essential in the new dispensation, but the enforcement of the principles for which it stands depends upon the power behind it, and in the last analysis, this is the British fleet. *Britain is the League.* France may enter into the picture, but only as the patrolman to keep the peace on his own beat. When the riot call sounds, the gendarme must be supported by the British naval patrol.

When we talk of Anglo-American co-operation to uphold the League, or, that the United States must enter the League to assure the triumph of its principles, it means in effect, that the United States and Great Britain will rule the world between them. Nothing could stand before our combined naval power and ability to enforce sanctions. If we stress the blessings of peace, international justice and collective action, it merely means that American and British interests are best served by the maintenance of these principles. It also means that the United States will be forced to take part in every controversy, every war in every part of the world and use its power to suppress the natural aspirations of new born millions struggling to escape from economic conditions which condemn them to perpetual inferiority and in some instances, to slow death. It is an alluring temptation, a dazzling picture of power held before our eyes. All the rest is flapdoodle.

That Britain now stands firmly for the sanctity of the Covenant, means just that and nothing more. She stands for Britain. To question her sincerity towards the Italo-Ethiopian dispute leads nowhere. She holds the whip hand, sounds the keynote and waves the baton. No matter how discordant, the orchestra will play the concert through under her direction. When she stands firmly on a general principle of international conduct to which the other nations have subscribed and demands compliance with their pledges, it is useless to accuse her of being actuated by enlightened selfish motives. These motives are there for all to see but they pale into insignificance before an appeal to principles her Associates have written into the law and pledged themselves to uphold. Preservation of her empire may dictate her present diplomacy but even these obligations are overshadowed by the paramount law of self-preservation of the Metropolis itself. For without the Metropolis, there can be no Empire and, no League. The questions of British security, perpetuation of the *status quo* and balance of power, the preservation of the League and its machinery for collective action to guarantee peace, may or may not be vitally involved in the controversy over Ethiopia. The real issue lies in Europe.

Americans are mainly interested in that phase of the struggle that will determine whether dictatorship or democracy will rule Europe and the world. Viewed from this angle, it must be conceded that forceful, convincing and compelling reasons support the plea for Anglo-American co-operation for the preservation of liberty and democratic institutions.

American Eyes Now Open

Although once before Americans crossed the Atlantic to help make the world safe for democracy and, notwithstanding that their Associates at the Conference Table imposed reparations, terms, conditions and imputations of guilt which invited a reopening of the conflict, the time may again come when Americans in self-defense will be compelled to co-operate with Britain and France to save civilization from a relapse into barbarism. But, if and when, this necessity arises, the American people will labor under no illusions. No amount of special pleading concealed behind a propaganda to uphold common ideals, will sway the people of the United States to take up arms. They will fight, if needs be, for their own ends, to defend their own security and perpetuate their own institutions and the needs of civilization. They remember how they were propagandized into the last war and will take as an insult to their intelligence any repetition of the methods then employed to compel them to fight.

There is an article in a recent issue of *Liberty* by D. Thomas Curtin, an American war-correspondent, who confesses how he became the tool of Lord Northcliffe to help get his own country into the last war on the side of the Allies and how he earned his money. The story is only one more revelation of how the British propaganda machine works, who handles the money, how it is spent and the

tools used in the work. "To hell with Roumania and Greece, give me the United States," thundered Northcliffe, and with unlimited millions, he got what he wanted.

The secrets of "Crewe House" and that marvellous though unscrupulous service created by Northcliffe have been revealed by Sir Campbell Stuart in his interesting book on the subject published in London in 1920. Others have since rushed into print to disclose proudly their part in winning the war by getting America in on the side of the Allies through propaganda. The list of peers and knights rewarded by a grateful government for their services in this campaign bears witness to the efficacy of their labors. But Northcliffe's activities did not end there. The inside story of his post-war visit to the Far East remains to be told. If thinking Americans are now somewhat hard-boiled and decline to be swayed by British propaganda, it is not because of any inherent opposition to British policies or interests, but because they have been educated in a bitter school to a better understanding of the practical politics concealed behind high-sounding and meaningless phrases. We are still paying for our trustfulness. We may fight again, if needs be, alongside of Britain, but when we do, it will be in defense of our own security and vital interests.

The Question of Navies

There are certain other facts which our British cousins must face without squirming. One quarter of the surface of the globe is incorporated in the British Empire. The preservation of our common ideals means the perpetuation of this empire and British supremacy in world affairs. Britain will never consent to this pre-eminence passing to another nation. She will never willingly surrender command of the seas, even to the United States, her erstwhile partner in upholding democracy and liberty. Lord Riddell was brutally frank in his latest book, when he repeated Lloyd George's answer to the challenge of the post-war American naval program; *I will sell my shirt before they can have it*, he told his cabinet intimates.

These few words speak volumes. The United States had just emerged from a victorious war as the associate of Great Britain. At the Peace Table, Britain and France divided the territorial spoils between them. America asked for nothing and got exactly what she asked for. On the other hand, we propounded certain principles that were adopted as the corner-stone of the peace edifice to assure forever the enjoyment of the new *status quo* by our more worldly-minded Associates. But the United States had amassed great wealth as a result of the war and had embarked on a naval program that would have made her fleet superior to that of Britain's. America had the money to carry it through, Britain was in her debt and handicapped in meeting her program. America's attitude at the Conference clearly revealed that she neither coveted nor desired territory. The British Empire was safe from American aggression. A superior navy simply meant that in future the United States would define the "Freedom of the Seas" in her own way. Lloyd George's exclamation tells us that no matter how pacific, how honorable American intentions, Britain will beggar herself before she permits the Trident to pass from her hands. Equality she may concede, never superiority. Hence the Disarmament Conference proposed by Lloyd George, which resulted in scrapping the program for the most powerful navy ever projected.

The situation we now face is not a nice one for any true American to contemplate. We surrendered our prospective naval supremacy for the sake of world peace and good understanding. We then so convinced ourselves that there would be no more wars that we declined to lay down the keel of a new ship for several years. We woke up out of our dream to find that our great, powerful, rich and resourceful Republic instead of standing firmly planted on its own feet, prepared to defend itself by its own strength, must now fly to the League for comfort and rely on the British fleet to uphold our policies and guarantee our security. It is a humiliating picture. It conveys to thinking Americans that we have been sold out. Unable to stand alone, we must support British imperial policies in exchange for a co-operation that assures to us security in the Pacific. We do not like it.

It is unprofitable at this stage to indulge in recriminations or attempt to apportion the blame. Japan's actions in Manchuria may have broken the equilibrium set up at Washington, but it had nothing whatever to do with navies. In fixing the naval ratios we overlooked adjusting the military balance in Asia and, as a result, Japan found herself confronting a menace that outnumbered her

twenty to one. In self-defense she has temporarily planted both feet in the scales, and announced her determination to hold the balance herself. But even this has not disturbed the naval equipoise. It remains exactly the same, just as we fixed it at Washington. If Japan is now unwilling to continue occupying the short end of the naval balance, is it not because the others seem determined to employ their preponderance to restore the military odds of twenty to one against her?

Balance is Disarranged

It may also be that the naval balance has been upset by the rapid rise of Italian sea-power, French augmentation of their fleet or, by the new Anglo-German Naval Agreement under which in four years, Germany will have a brand new war-fleet whose actual fighting efficiency may reach seventy instead of thirty-five per cent of Great Britain's. Whatever the cause, the balance is disarranged and the consequences inescapable. If Britain now builds a new fleet, as she must, or court disaster for herself and the League, then the United States must keep abreast of her program. It may be convenient for American big-navyites to use Japan as a stalking horse, but no sensible American will be deceived. If the race is started, the United States will not be building solely against Japan, but to hold her place in the more important sphere of world politics as the full equal of Great Britain.

This does not signify that Americans are hostile to Britain. War between the United States and Britain is still unthinkable. But war between Great Britain and some other country while not inevitable, is always a possibility. If the League endures, it will be solely because Britain alone possesses the might and the will to use that might to uphold it. Situations are bound to arise to compel the League, that is, Britain, to employ this might for the settlement of disputes or for the enforcement of sanctions. As long as the United States is not a Member of the League, either it must co-operate with the League, that is, Britain, in enforcing these sanctions, remain neutral, or insist on our rights of trade. When we relinquish these neutral rights, for all practical purposes, we become part of the League machinery, that is, the partner of Britain.

Britain has her Empire and is justified in desiring to hold and develop it along lines that will profit her the most. She will tolerate no interference with her undisturbed enjoyment of the fruits of her sacrifices and victories. Americans are not envious. We may not approve of the methods employed in building up this empire, but we covet nothing that Britain possesses. We have had our own experience with British sea-power and with the lessons of the past ever before us, we know what her predominance means when applied in practice. Americans are also willing to sell their shirts—even their B.V.D.'s, if needs be—to maintain parity in sea-power as the only safe insurance and guarantee against further humiliations. We fought one war and against our wishes were forced into the World War over the "Freedom of the Seas" and the issue remains unsettled. We do not want to fight a third war over the same principle. We may, and probably will, fight alongside the British to defend and preserve our common heritage and love of liberty, but if and when we do, we will go in with both eyes wide open.

When Stanley Baldwin declared last year before a cheering audience in Glasgow that, *as long as I am responsible for the Government, never will I sanction the British navy being used in armed conflict with any country until I know what the United States is going to do*, he announced in no uncertain words that no longer could Britain impose her will in war time without precipitating a showdown with the one Power possessing a navy equal to her own. If Britain is now massing her fleets in the Mediterranean, prepared to uphold at all costs the prestige and principles of the League, it is because she has received the assurance that the issue of the freedom of the seas will not be injected into the impending struggle. Hence the American Neutrality Act, clearing the way for Britain to put forth her full strength without fear of complications with the United States arising out of blockades, the right of search, definition of contraband, and the thousand and one restrictions on neutral trade imposed by the dominant sea-power during the progress of hostilities.

Elements of a Situation

The United States remains neutral in the present European flare-up, but under the circumstances, this neutrality must be

construed as a temporary waiving of American trading rights in order to avoid all possibility of a clash over old and unsettled issues or, as equivalent to an understanding or alliance with Britain to uphold the principles of the League and the collective system to outlaw war. If Stanley Baldwin's words convey any meaning, the American Neutrality Act is his answer as to where the United States stands. For all practical purposes, the United States stands aligned with Great Britain. Notwithstanding our possession of a navy of equal strength and ability to enforce our viewpoint, we have subordinated one of our most cherished rights to the higher cause of world peace and, who knows, perhaps for the preservation of those higher ideals upon which rests our common civilization and liberties.

President Roosevelt has announced that the American Government is determined to keep out of foreign wars. It will not become involved in controversy over its trading rights. It has profited by the lesson of the last war and will forego tempting trade opportunities and financial gains for the sake of peace, which means, in simple English, that we will not risk a war with Great Britain over the same issues which brought us in tardily on her side in the World War. There can be no formal alliance or secret understanding between the United States and Great Britain, but history will record the existence of a unity of purpose and an agreement on principles more powerful and effective in their practical application than any signed covenant. If Britain and the League Powers now impose their viewpoint on Italy, will not the victory be won at the sacrifice of a fundamental American doctrine?

Some Questions

What are we to surmise from all this? We will never again use our navy to force the issue of the "freedom of the seas" with Great Britain. Then why maintain naval parity? Why are we feverishly pushing through our naval program and building a fleet of bombing planes capable of flying the Pacific? If we waive, even temporarily, a right we have twice fought to uphold and which still remains a cardinal principle of sovereignty, in order not to embarrass Great Britain or the League in imposing sanctions on Italy, is it reasonable to surmise that there is a *quid pro quo* attached to it? What is the answer to this riddle? What are the implications of such a surrender? Does it mean that we have definitely conceded the supremacy of the seas to Great Britain? Does it mean that in return for not pressing our rights in this dispute, the League Powers, that is, Britain, will stand with us in the Pacific, that we hold the Open Door and the integrity of China paramount to principles we have already fought twice to safeguard?

When we read the forecast of Rear-Admiral Yates Stirling that after stabilizing Europe, the League may turn its attention to the Far East, a statement which harmonizes with and reinforces the hope held out to China by her American advisers, when we fit this in with the speeding up of the American naval program, the announced plans to build immediately sixty huge bombers capable of a non-stop flight across the Pacific, the completion of landing fields, hangars, supply and repair stations along the Trans-Pacific hop, the loan of the Chief of Staff of the American Army to train the Filipinos to defend themselves, the further announcement that the new Philippine Commonwealth will seek permission of the United States to apply for membership in the League before complete independence is conceded, and then turn to the hopes expressed by Secretary of State Hull that the barbarous institution of war has been forsaken, somehow the picture seems distorted, our actions do not support his words. Is it possible that the right hand of the American Government does not know what its left hand is doing? Has the United States traded the "Freedom of the Seas" for the Open Door in China? We talk peace but prepare for "defensive war" that must be waged by fleets having a cruising radius of three to four thousand miles and bombing planes that can fly the Pacific in a non-stop flight. Is it any wonder that the Japanese are sitting tight, keyed up to meet any emergency? The British will sell their shirts, the Americans may part with their B.V.D.'s, but the Japanese say the same thing in another way. They "will eat rice gruel" in order to raise the funds to hold their own in a building competition. They will get down to wearing G-strings to be in style with the West. That is just about what the well-dressed-man will wear after the next big war is fought and paid for.

NAVIES

Britannia Faces Her Brood

ONCE again, the delegates of the Sea Powers are gathering in London to chat about the size of their navies. They call it a Naval Conference. If anything can be said that has not been fully threshed out in previous talk-fests and discussed from every angle in the public press, it will come as a real surprise to the layman.

Britain, America and Japan know exactly what they want and will hold out for the ratio and tonnage best suited for their respective needs. It would not be difficult to reach an understanding if the naval requirements of each Power could be stated in terms of actual defense of their own coast lines, in the same way that the size of armies are determined by their land boundaries and the armaments and policies of their next door neighbors. Many other considerations enter into British and American naval needs.

It is not alone command of the seas surrounding her tight little isle, but the assurance that her bread and supply lines or any part of her far-flung empire, shall not be interfered with, that concerns Great Britain. Her naval minimum calls for a defensive fleet that gives to her uncontrolled dominion over the Seven Seas. The sun never sets on Britain's coast line. Her arm of defense automatically becomes one of offense, with the power at any given moment of concentrating her fleets in any quarter of the globe for the purpose of imposing respect for her viewpoint on any state with which she may have a dispute. Britain's defensive requirements necessarily compel other great nations to maintain naval parity, enter into alliances that balance the weight of her armaments or, submit gracefully to such maritime laws and regulations as she may lay down to perpetuate her superiority.

Even should Britain be willing to wait until they attained it, few nations possess the wealth, technical equipment or building facilities to attain naval parity with one whose industries have been developed and in large part are dependent upon and attuned to its maritime needs. The preservation of this supremacy on the sea demands that its power be applied in time to eliminate any serious competition, preferably by diplomatic negotiation, failing this, by the use of that power to crush the challenger.

The United States escaped from having the crushing pressure of British sea-power exerted upon her simply because Americans were content to remain in an inferior naval position and permit their sea-borne traffic to be carried, in the main, in British bottoms. From the termination of the clipper-ship era right up to the World War, the United States although independent and free on land, was a maritime dependency of the dominant sea-power, permitted to build and operate a nice, harmless, little coastwise fleet of carriers, but in the deep-water tonnage that really counted, the Union Jack or the Blue Ensign of the Naval Reserve drooped from the sterns of the ships which transported our goods and our nationals across the Seven Seas.

A Bit of History

The World War created the opportunity to build an American navy and mercantile marine that would never have been conceded at any other period without inviting an immediate tightening of the British naval cordon and enlargement of bases at Halifax, Bermuda, Jamaica, Trinidad, and other secondary links in the chain of imperial outposts which command the main sea routes into and out of the Eastern and Gulf ports of the United States. The implied threat was always there. As long as the United States accepted British naval supremacy and soft-pedalled our foolish ideas about the "freedom of the seas," and American statesmen subordinated the interests of their country to principles conceived in London and we played the rôle of unofficial allies of Great Britain, it was one long love feast.

Linked together by ties of common understanding and ideals, the Bands played "Hands Across the Sea" and the Pilgrims may-flowered back and forth in palatial British liners to tell each other what great and wonderful fellows we both were. We might fret and fume, grow hot and irritable, twist the old Lion's tail, prod and goad him until he stood up on his hind legs and roared, we could declaim about the rights of man, yell "down with tyrants," and fight over again the War of Independence every Fourth of July and in general relieve our surcharged republican fervor by

telling the world what we thought about Monarchies, tyrants and British rule.

Bluff old J.B. and his spike-collared bulldog, Buxom Britannia, old Father Neptune, the Tritons, the Oceanides, the Nereides, the mermaids and all the other great gods and little fishes of the Briny Deep, roared with laughter at the antics and unintelligible humor of the boisterous backwoodsmen. It was great sport in old nineteenth century days. One branch of Britannia's brood took to the land and conquered a continent, never stopping until they came smack up against the Old Lady of the Sea on the other side of their world, calmly seated at Esquimalt and other points West, saying "Good morning, Jonathan." Everywhere we turned, there we found her, with the trident in her hand, ready to prod us back into our terrestrial place. She never grew very angry with us. In fact, she was rather proud of us. After all, we were her own off-spring. As long as we did not grow too ambitious and assert our complete independence of her rule of the deep, we could "revile the street" and blow off our excess patriotic steam in our own way. At least, free speech and a free press, was the heritage of the brood.

So matters drifted until the World War. It did not take long before the United States realized that once more it was squarely up against the immutable wall of irrevocable British naval policy, the cardinal principle of which is not to limit the effectiveness of her sea-power or surrender her right to lay down and interpret the law of the sea so as to concede to her absolute freedom to use her supremacy in any way deemed most convenient and efficient to ensure British security and victory. The United States had to hurriedly build its own ships to carry its goods to foreign markets and a navy to protect this trade. While wholeheartedly sympathetic with Britain in the issues which forced her into the war, Americans entertained no illusions about Britain's conception of maritime law and its application in war-time.

The Some Old Situation

Many American admirals would rather have fought the issue out with Great Britain. They knew what it all meant and to what extremes Britain could carry her conception of Maritime right. In its infancy, the United States went to war with Britain over the question of the right of search, impressment of our sailors, boarding of our war-vessels in territorial waters and other cognate questions relating to the rights of neutrals. The traditions of the American navy are largely rooted in the battles of that war. The exploits of our little navy revealed that with anything approaching equality, the nation had little to fear from the dominant sea-power. It enforced an unwilling respect that lingers to this day. Yet we sent our delegates to the Conference Table and signed a peace without ever alluding to the subject matter of the dispute. The result was that the same issues arose to plague us every time Britain was engaged in war and only by great restraint on both sides was it kept out of our Civil War. Had Germany not made the grave mistake of resorting to unrestricted submarine warfare, the United States would probably have been forced into the World War over the unsettled issues of 1812. Again, we sat around the Conference Table and signed a Peace that left the issue open and undefined. And now once more the consequences follow in a regular course, fixed, certain and inevitable.

To return to the Naval Conference. Japan shows no indication of modifying her demand for naval equality. Conceding this principle, she announces that she is ready to scrap all battleships, battlecruisers and aircraft carriers and confine her fleet to purely defensive types. Her proposal for a common upper limit, not to exceed her present ratio and the abolition of capital ships would, if accepted, eliminate all fear of future aggressive war in the Pacific. Japan points one road towards peace. But that peace, the others contend, is one on Japan's terms. It leaves her supreme in Eastern Asia and constitutes a left-handed recognition of what she has done in Manchoukuo, something we have declared we will never do. It furthermore concedes to her the dominant position in China Proper. We are unwilling to consent to this.

The United States therefore shows no indication of modifying its demand for a continuance of the 5-5-3 ratio. It desires to retain its capital ships and aircraft carriers of long cruising radius, which, under the circumstances, may have either one or two interpretations. The United States also enjoys trading relations with

every nation in the world which might be interfered with or cut off in the event of Britain employing her fleet for punitive purposes. In the absence of adequate bases, American vital interests and security demand the possession of long range cruising capital ships to cope with any such emergency.

It may be true that the United States will never again go to war with Great Britain, but past experience tells her that only by maintaining full parity in naval strength will she be accepted as an equal and with the respect that such equality imposes. If the United States should slip too far behind in the race, she would take her place with Spain, Holland, France and Germany, secondary sea-powers, and will never again be permitted to reach a parity with the dominant power. Americans are even willing to waive their cherished conception of the "freedom of the seas" rather than submit it at this time to another trial of strength. They take refuge behind their love of peace and proclaim that never again will they fight a foreign war.

The United States also desires a defensive navy, but its definition of defense is not confined to safeguarding its own coast lines, but those of South and Central America as well, and strange to say, the territorial integrity of an Asiatic State with which she hopes some day in the distant future to develop into a profitable market for her manufactured goods by preserving equality of trading opportunity. The United States are withdrawing from the Philippines, so her defense requirements no longer extend to those Far-Away-Isles of the Southern Seas. But she retains an interest in China and places her duty to this undefined country superior to the preservation of her own national interests. The American idea of a defensive navy apparently is one that extends their coast line to the western shores of the Yellow Sea which their fleets cannot reach without penetrating Japan's outer lines of defense. It sounds quixotic, and it is, but it seems to be the American program, nevertheless.

The European Situation

However much Britain may desire peace, because of her vast empire, she can attain it only by being constantly prepared for war, calling for possession of a preponderating naval strength sufficient to overawe all who might covet her possessions. Britain must pay the full penalty of empire, armed and ready at all times to defend the spoils of former wars of conquest and preserve that balance of power upon which her very existence depends. Italy is challenging her to-day. With the help of the League, Italy may be suppressed. If she is, the Italians will cherish an eternal and implacable hatred against the Power and Powers which have humiliated her, and those whose neutrality acts have helped to strangle her. To-morrow, it may be necessary to suppress Germany.

Should Italy then even stand aside in the conflict and open her passes to the Teutonic flood, France may have reason to regret the rôle she is now playing at Geneva. Which explains why M. Laval joined in the condemnation of Italy against his personal inclinations and why it is so difficult to apply sanctions against the aggressor state. It also explains the report (later denied) to the effect that France and Britain are about to contract a new defensive alliance "during the period of enforcing sanctions against Italy," an admission that enforcement of League principles in the present struggle devolves solely upon these two Powers. This drawing together of France and Britain in a new regional pact even within the structure of the covenant, is a confession that the League cannot cope with wars all over the world and, if permitted to survive, its activities and usefulness must be restricted to consultation.

Recognition that the League can never be used to enforce its sanctions, automatically calls for dividing the world into regional groupings under mutual assistance pacts. And this new shift, if it takes place, is the forced answer to the threat held out by the possibility that Italy might open her doors to the Germanic flood, if defeated in her present plans and compelled to withdraw from Ethiopia. Under such an arrangement, Great Britain would guarantee the French borders, but France would be asked to renounce her mutual assistance pact with Soviet Russia, consent to the union of Germany and Austria and give up her other commitments in Central and Eastern Europe which might involve Britain in conflicts where she has no interests and does not wish to be involved. All this presupposes an understanding with Germany to the effect that she will not attack the western border if granted a free hand in the east. Or, as Dr. Schacht is reported

to have said to his financial colleagues in Berne: "There is no obstacle to Franco-German understanding. We Germans do not intend to enlarge our western frontiers. Sooner or later, we shall partition the Ukraine with Poland, but in the near future we shall be content to assert our preponderance in the Baltic States."

This explanation is undoubtedly the key to the mystery of the Anglo-German Naval Agreement conceding to Germany supremacy in the Baltic where she seeks expansion on land. In this event, the price of peace for Britain and France will be paid by Eastern Europe. It merely shifts the danger zone from the West to the East and throws upon the Kremlin and Wilhelmstrasse a task that has worn to a frazzle the nerves of British and French statesmen. It would completely change the world strategic picture. Russia would then be compelled to concentrate all her attention on her western front releasing the terrific pressure of the Soviet in Central and Eastern Asia. Any such readjustment would have its repercussions on American policies in the Pacific. Should the United States adhere to its present attitude towards China, the suggested new set-up in Europe would definitely eliminate Soviet Russia as a factor in the Far East, leaving Japan in supreme control. On the other hand, by eliminating the menace of Germany, the new deal would automatically release the British fleet for concentration in Asiatic waters, where, in co-operation with the American navy, pressure could be exerted upon Japan. That possibility is perhaps one of the reasons why Japan holds out for full naval equality. The next act in the international drama may be staged in Eastern Europe with Germany and Soviet Russia as the principals in the play or, it may take place in the seas east of Singapore. Or it may be that the new line-up may result in a new set of regional agreements recognizing Japan's rôle as the guardian of the peace of Eastern Asia. If such an arrangement could be reached, then Japan's proposals for naval disarmament could be accepted as a basis for negotiation and we could all reduce our fleets.

Let Ivan and Hans Do It

Under such an arrangement, Soviet Russia would pay the bill in the Ukraine. Instead of the sole burden of enforcing the League Covenant devolving upon Britain and France, the task would be shifted to the most formidable land power. As Soviet Russia can contribute little or nothing outside of economic sanctions to any major controversy calling for the pressure of sea-power, so the maritime nations can exert little or no pressure in regions where Russia is directly interested. The load has been unfairly distributed. It would seem good politics as well as poetic justice to throw the responsibility for the preservation of world peace and the *status quo* on the nation most loud in its denunciation of armaments, while building up the strongest military and air force in the world. There are excellent reasons of high politics why Britain and France should disburden themselves of the millstone. Why not permit Germany and Russia, the two great land powers, to take over the load and give the others a breathing spell? Litvinoff has laid down the formula for the definition of the "aggressor," let him demonstrate to the world how he would solve the problem.

If, through an out and out alliance, the might of Britain and France effectively closes and bars Germany's expansion westwards, while Soviet Russia in the East completes her encirclement, if all the League Powers hold out against the Anschluss, then the present penalization of Italy is merely the prelude to the main drama upon which the curtain must rise in the not distant future. The German pressure will find its outlet at the weakest point. Up to the present, Britain and France have taken for granted that the weak spot is somewhere along her western boundary. By alienating the friendship of Italy they have made this a grim certainty, and must now turn the menace in the other direction or invite the inevitable consequences. Germany must be placated and given a free hand to expand towards the East, whether by combining with Austria or, in some other direction. If such a solution throws upon Soviet Russia the burden of blocking Germany, it may result in a more speedy solution of Europe's problems than could be reached by any prolongation of the long drawn out tedious disputes, secret conversations, rushing about Europe and monopolizing the spot light and front pages on the part of a group of statesmen who for the last decade have played the stellar rôles. By all means, change the program. Give us the Russian ballet and a German symphony orchestra.

Soviet Russia has the largest army and the most powerful air force in the world. The Communist State, gathering into its treasury the profits from the toil of 170,000,000 workers, does not have to worry about taxes or the balancing of budgets. Moscow plays the game with billions while other governments pike along with little white counters representing millions. If there is any sense of proportion left in the world, then the issue of peace or war and the future of Europe might well be left to the two big Powers whose policies for the last decade or so have kept their neighbors in a constant state of apprehension and uncertainty.

In all the agitation over redistribution of territories, it has been accepted as a matter of course, that Britain or France must surrender territory for the sake of peace. It seems to be overlooked that the old Czarist Empire was built up by the same methods of conquest. It might help towards a quicker settlement of European problems if those two innocents, Britain and France could come to an understanding along the lines indicated by Dr. Schacht and permit Germany to seek her outlet to the East. Russia is sure to object, but it would relieve the tension in the West and enable Moscow to show the capitalistic League how these things should be handled. Soviet Russia was invited to a seat on the Council of the League solely because of French fear of Germany. Russia, on her part, surrendered her principles and embraced the "piratical League" in the sole hope of enlisting its support against Japan. Well, it might be good poker playing for Johnny Bull and Marianne to pass the bet to the Steelman and watch him play the game with the Junker. This is not only good-poker, but good statesmanship.

Again the Race of Armaments

At any rate, the political wheel is turning in Europe. Many things are happening behind the scenes which will determine the future and fate of nations. If Italy is to be penalized, a future conflict with Germany is out of the question. Britain seems determined to carry through what she has started. In that case, Germany must be appeased, or a defeated and humbled Italy will open her northern passes to the passage of the Teutonic hosts. Britain and France having cast the die, cannot recede. To hold her empire, Britain must now rebuild and modernize her fleet. Without this powerful arm, she goes under and her empire passes into history. The menace to Britain in Europe, the challenge of Japan in Asia and the determination of both Britain and the United States to consent to no modification of the naval conditions laid down at Washington, tells us that the armament race will be renewed.

The situation and what we can expect, is very clearly outlined by Rolland A. Chaput in his book "Disarmament in British Foreign Policy" recently issued by George Allen & Unwin, Ltd. He says:

..... "There is no prospect of agreement on the limitation of the naval armaments of the three large naval powers without the restoration of a balance of power in the Pacific. Since the independence from foreign pressure secured to Japan by the Washington Agreements has prevented effective opposition to her actions in Manchuria, it is hardly likely that the large naval Powers will agree to change the naval ratio, thereby allowing the Japanese Government even greater freedom of action. For Great Britain and the United States to recognize the right of Japan to a larger ratio of strength in proportion to the British or American navies would be tantamount to giving the Japanese Government *carte blanche* to carry out its designs in the Far East. This renders bargaining all but impossible. If British and American public opinion insist upon further limitation of naval armaments, and if the Anglo-American differences can be composed, a convention will be arrived at only on the basis of the explicit and implicit recognition of the freedom of Japan to do as she pleases in the Far East."

The requirements of the British navy will rule the new parley. The need of the United States to hold its parity with Britain, and uphold its Far Eastern policies, will compel her to follow the British lead. Japan's proposal of real reduction in the interests of peace will be rejected because it would still concede to Japan the dominant position in the Far East. The outlook for accord seems hopeless.

The United States will not at this critical juncture weaken herself and Britain by raising the issue of the "freedom of the seas." To that extent the United States is the ally of Britain. The United States will not recede from its Non-Recognition Doctrine. As long as it endures, it constitutes a challenge that Japan dares not ignore. So we seem to be in for it.

The Outlook for the U.S.

Billions will be expended in new armaments. The United States will hold her place in the procession, always on a parity with the greatest sea power in the world, and with sufficient force to dominate the Northern Pacific. We will never again go to war with Britain to uphold a cardinal American policy upon which the whole tradition and fighting spirit of our navy has been erected and kept alive, but unless all signs fail we are headed directly for trouble with Japan to uphold the British policy of the Open Door shoved over on John Hay to promulgate and sponsor as an American doctrine.

How long must the American people be bamboozled over these issues? If it were possible for the old Anglo-Saxon element in the United States to dictate the policies of the Nation, there would be no hesitation in avowing an open friendship, sympathy and community of ideals which could be translated into action in an emergency. But that time is definitely passed, never to return. The Anglo-Saxon element no longer dominates and to force the issue by persistent propaganda in the mistaken idea that it does, can only result in the disruption of the United States and the downfall of the Republic.

The security and permanence of the Empire is undoubtedly the highest duty of every loyal Briton, and Americans respect them for that spirit and many would volunteer to help them out of a tight corner. But if they are to be called upon to help save that Empire every time it is menaced, because of the bond of common language and ideals, love of peace and democracy, we may as well scrap our navy and take our place once more as dutiful subjects of the British Crown. For, just so sure as the United States is drawn into another war to save Europe and democracy, just so sure will she face an internal upheaval that may wreck the Republic and leave us for all practical political and trading purposes a dependency of the dominant sea-power.

Loyal Americans solely interested in the preservation of their institutions and form of government, watch with grave concern the unfolding of events and policies which unless checked in time, may destroy all that the Fathers have built up and handed down to them to preserve and pass on unimpaired to posterity. Americans may owe a duty to humanity and democracy which coincides and harmonizes with British ideals, but our first and highest duty is to ourselves, to our country and to those who come after.

We have surrendered temporarily, at least, one great trading principle for the sake of peace with Great Britain. Will we withdraw from our position on another trading principle for the sake of peace with Japan? The temporary sacrifice of the principle of the "freedom of the seas" guarantees that we will not be railroaded into war to protect a few munitions profiteers in the event the present flare-up in Europe develops into actual hostilities, while the surrender of the Open Door principle would not in the least disturb us from continuing in business as a charitable institution.

The maintenance of the Open Door in China may, in due course, build up a profitable market in that country for American goods, but the balance sheet to date shows that we are out-of-pocket about \$65,000,000 annually. Over a period of say, fifteen years, the balance against us stands at about a billion dollars. Now we may sacrifice a principle in receding from our position on the Open Door and its political derivatives, but we most certainly will not be losing any money. In fact, if we scrapped the doctrine and lost all of our China trade, the nation as a whole would profit. It is difficult to understand by what process of reasoning we can justify our recession from one position whose maintenance means war and then stand pat on another principle that so far has failed to return a profit and for whose perpetuation we seem willing to fight. It doesn't make sense.

The Monroe Doctrine Shelved

We have also scrapped the Monroe Doctrine. The policy of the Good Neighbor implies that never again will we intervene

in the affairs of our Southern neighbors and, that any infraction of the doctrine now becomes the concern of the whole continent. American leadership has been surrendered and our basic defense doctrine modified to meet changed conditions. With the Monroe Doctrine and the "Freedom of the Seas" shelved to meet the exigencies of the situation at home and in Europe, the preservation of the Open Door becomes the paramount policy of the American nation. We will not fight to safeguard vital interests in our own sphere; will we maintain our position on a doctrine devised to defend the territorial integrity of 500,000,000 people who will not unite to fight in their own defense? We can laugh it off, but that is the situation in a nutshell.

The recognition of Manchoukuo and Japan's position as the main stabilizing force in Eastern Asia would guarantee peace in the Pacific without any great sacrifice on our part or impairment of our security. Our differences with Japan could be readily and amicably adjusted and our navies reduced to a minimum for defense. Japan may grow strong, but is not one strong Power dominating the Far East preferable and more profitable to deal with, than a weak, disorganized anomalous aggregation of states whose disunity and inability to defend themselves is a constant source of international friction and provocation to war?

We may hold otherwise. We may believe that it is to our interest to exert pressure on one state so that a greater and stronger one may in due course take its place, pinning our hopes on the slender possibility that this neighbor will be more friendly and pliable and in gratitude reward us with profitable orders for our goods. We overlook the possibility that in the same manner and spirit that Austria once repaid a debt to Russia, China "might surprise the world by her ingratitude." We never can tell about nations. They are seldom grateful. Americans might well take to heart the lesson of the last war and contemplate the gratitude of Europe. Will we not obtain our share of this China trade no matter which of the two States in Eastern Asia becomes dominant? It will require many decades, the investment of many hundreds of millions of dollars before the trade of China becomes as profitable as our present trade with Japan. Is it worth while fighting our best customer in the hope of problematical future profits that can be derived only after huge investments of American capital? Why not permit Japan to hazard the investment and take our increased profits out of increased trade with that country? If we are interested solely in trade, this would seem to be the most sensible course. But nations are rarely sensible.

Chasing Delusions

The United States reject Japan's proposals and rather than concede to her the dominant place in her own sphere, will spend a billion or two in new battleships, huge bombing lanes and justify this drain on the taxpayers by holding out the lure of juicy profits that will accrue to our great-great-grandchildren by keeping the door to China open for them to enter. By the time we wipe out the billion or so deficit standing in the ledger against us, pay for the new fleet and bombers and then dump another billion into China to develop the country and build up a market for our goods, and then go to war over it in the hope of realizing on our investments, it will take just about a century or two of profitable trading to get back our original stake. Mark Twain faithfully portrayed Uncle Sam in his story of Colonel Sellers. The wares, selling arguments and prospective huge profits are identical—just eye-wash.

Well, the delegates are going to London once more to talk it all over. By the time the Conference convenes, events in Europe may make things easier or more difficult for the United States and Japan. The relegation of the League to a purely consultative body and the suggested replacement of sanctions by regional pacts of mutual assistance, may or may not pave the way for a clarification of Pacific issues and the recognition of Japan as the dominant force in Eastern Asia. If Britain and France enter into an alliance that guarantees the French borders and Germany is conceded the right to expand eastwards, the pressure on Russia from that quarter will be so great that she will have to withdraw from the Far East and, whether we like it or not, Japan's premier position will have to be recognized. It is true, perhaps, that Britain may repay her debt to the United States by co-operating with her in the Far East, but that is still a long way off. The Japanese are not unduly alarmed. Much

may happen in the next few years. No matter what accord is reached at London, Britannia will rebuild her fleet and augment her cruiser capacity. The United States must follow and Japan will have no option but to tag along. Real disarmament seems as far off as ever. It is too much to expect that human wisdom, judgment, prescience and the lessons of history will rise superior to the stern requirements of empire.

Britannia's stormy-petrel chickens have come home to roost. Her American progeny, hatched from her own eggs are faithful replicas, endowed with the same acquisitive and meddlesome traits. They know instinctively what the Old Lady is thinking about all the time. Britannia, in a moment of isolation and in fear of the Big-Bad-Bear-that-walks-like-a-man,² adopted the offspring of Jingo, her alter ego amongst the Sea Deities of the East. Jingo-Kogo was not only a beautiful woman but the greatest heroine in that part of the seas where the Sun ever rises. She was doing things and making history long before stern, helmeted, Britannia was born. She also left a progeny imbued with the same spirit that afterwards characterized the offspring of Britannia's. For centuries they dominated the Eastern seas. The crumbling ruins of castles, forts and walls erected by dwellers in nearby lands to protect themselves against the raids of these fierce sea-rovers, still stand to bear witness to the terror they inspired. Then a very remarkable and unprecedented thing happened. A cock-of-the-walk called a Shogun, came into supreme control and commanded all of Jingo's offspring to remain at home, and to keep them there, clipped their wings so they could no more fly away from the main roost. And that is where the otherwise shrewd Shogun made his great mistake. Had he left those Jingo birds of Satsuma to follow their natural bent, the capital of the Empire of the East would to-day be located at Kagoshima, instead of Yedo, and the descendants of Jingo with their fleets would be mistress of all the Seas east of Suez and west of the Golden Gate. They stayed at home too long, pecking at every stranger that approached their shores.

Then one day while Britannia was busy bottling up the Big-Bad-Bear in the Black Sea, Jonathan, her natural offspring, stole a march on the Old Girl. He went over to call on those Jingo chicks, poked them out off their roost and made them come out and play in their natural element. Mother Britannia was mad at Jonathan for stealing her thunder but they soon made up and vied with each other in teaching the Jingoos all the new tricks of the sea-game developed while they were scratching gravel and trying to forget that they belonged in the water. Now Jonathan was not a bit pleased when, as the Jingoos grew new feathers in their wings and became more and more proficient in their use, Mother Britannia took them into partnership. Of course, he could always have entered into a similar partnership, but preferred to remain independent and go his own way. So Jonathan kept prodding away at Jingo endeavoring to compel him to show a proper respect for his superior position and prowess. Jonathan dispatched his brand new Big White Fighting Fleet to make a friendly swing around the circle to provide an excuse for dropping anchor in Yedo Bay and show the Jingoos what they were really up against. The Jingoos were duly impressed. They smiled, bowed, gave Jonathan a good time and said, "Sayonara!" "Come over and see me again, some day!" Then they turned to and redoubled their activities to build a fleet as good, if not better, so that some day they also might return the "visit of courtesy" and show what they could do. In other words, Jonathan's second bluff didn't work at all. It made the Jingoos mad, only they were too courteous and polite to show it.

So the years have passed. To placate Jonathan, Britannia parted company with Jingo. After all, the Old Lady in a pinch prefers to have her own kind at her side. And they are both jealous, envious and apprehensive of what Jingo will now do. Jingo has the ships. She has the knowledge, the spirit and the will to use them. And she has demonstrated to the satisfaction of her old teacher and play-fellow that the Nelsons and Farraguts have their counterparts in the Togos of the East. The Jingoos also know instinctively what Britannia and Jonathan are thinking about all the time. They are not fooled by empty phrases. They stand squarely on their own feet, demanding recognition of full equality. This, in brief, is the picture of the London Naval Conference. Britannia stands facing her Brood. The Old Lady and her natural son, Jonathan, entertain no illusions about the Third Member of the Family. They taught him all about the game as

it is now played. Jingo knows exactly the value of the cards he holds and cannot be bluffed or raised out before the draw. He knows that his hand is as good as theirs and that it will take their combined ten cards to make up a hand that will beat his three of a kind and a pair. And of course, that is not honest poker. Jingo has them beat before the draw. If Britannia and Jonathan are really good poker players they will stop bluffing and divide the pot. Otherwise, the game will proceed until some one of the three calls the showdown. If any attempt is then made to combine two hands to beat one, well, Jonathan knows what that means in his part of the world where the game was perfected. It then becomes a question of who can draw quickest and shoot the straightest. And that, after all, is rotten poker.

The Clash of Empire

(Continued from page 403)

any equality of opportunity, any Open Door with non-Christian peoples, or foreigners.

These are characteristics of Americanism in the raw. No where could they be better observed by foreigners than in our process of absorbing Hawaii. Our relations then with France and England did not and do not matter. What Japan learned for future use in Korea and Manchuria she learned from us;—and among the things that she observed and learned was the conviction of virtue with which Americans can absorb other people's property. And we were asserting from the house tops our "plans of predominance in the North Pacific," oblivious all the while of the fact that Japan is in the North Pacific.

The annexation of Hawaii, however, is not of first importance here. Rather, we are observing the upbuilding during that period of a conviction in the minds of others of our own unyielding and relentless aggression. It is only by following the story of Hawaii that we can understand the attitude of Japan toward us to-day. Hawaii, in fact, was the model upon which the State of Manchoukuo was built. Meticulous care to follow our specifications, and to build even better than we did by leaving an outward semblance of independence (as we have in Cuba) was taken in Manchoukuo. In spite of this, we protested to the point of war the existence of any such anomaly as Manchoukuo.

It is hardly necessary to wonder whence the Japanese took the idea of *closing the door* in territories in which they had *prior rights*. It was in Hawaii and from us Americans that the new Japanese statesmen learned how to build their own colonial empire. We seem childish to them now, or disingenuous when we do not take that into consideration, or when we tell them that the day of colony-building is over, or that because of the Pact of Paris all that is past—that it is part of the old era of international immorality, not at all part of this new era of international morality.

Only gradually during the course of almost half a century has Japanese conviction of unalterable American aggression become settled. In the process of that conclusion each unfortunate phrase is added to each of our acts to confirm and crystallize it. Denials of intention by accidental Secretaries of State or temporary halts in our continuous policy of imperial expansion do not affect the trend. Our actions have spoken so loudly that Japan, at least, has had no ears for our words!

To Harness the Sungari

Construction of five hydro-electric stations on the second Sungari, developing altogether 80,000 kilowatt power, will be recommended to the Manchoukuo government by a party of 15 government engineers.

The party was led by Mr. Takaroshi Abe, of the ministry of industry, and they traveled over 3,500 kilometers, returning here recently. They left Hsinking on February 5, and journeyed mostly on trucks, carts and horseback through Kirin, Fengtien, Chientao and Antung provinces. About 500 kilometers, were traversed over the frozen Sungari and its tributaries.

A full report of their lengthy exploration trip, along with their recommendations for power stations, will be made to the Ministry of Industry in the near future.

Silver Bullets

A RECENT report on Japanese investments in Manchoukuo since its independence, shows a total of Yen 708,000,000, of which Yen 365,000,000 has been returned to Japan by Manchoukuo's payments of excess of imports and Yen 150,000,000 in interest and other payments, leaving Yen 195,000,000. Deducting from this, Yen 60,000,000 Bank of Chosen notes circulating in Manchoukuo, the final total of Yen 133,000,000 is arrived at as representing Japan's net excess of capital payments to Manchoukuo for the three year period 1932-34.

The Manchoukuo Postal Statistics for the two year period 1932-33, show that Foreign Money Orders issued by Native Ordinary Banks and Chinese Banks in Manchoukuo totalled Yuan 243,609,187 against Yuan 78,248,961 paid out, or an excess of issued orders of Yuan 165,352,226. Estimating the same average for 1934, it would indicate that Money Orders issued for the three year period is approximately Yuan 245,000,000. As these transactions are handled exclusively by Native and Chinese Banks, it is reasonable to conclude that this sum represents the amount remitted by Chinese in Manchoukuo to their homes and families in China Proper.

It is difficult to arrive at any accurate figure of the amounts of hard cash taken out of Manchoukuo by the seasonal migration of farm laborers returning to their homes in North China after the harvest. The South Manchuria Railway authorities estimate it at about \$80.00 per head. Immigration statistics of Chinese entering and departing from Manchoukuo for the past few years, show that the total number returning to their homes in North China average 500,000 a year. If the above figures are accepted as a basis for computation, this would indicate a further drain of Yuan 40,000,000 a year or Yuan 120,000,000 for the three year period. Added to the Postal Money Orders issued, this would bring the total to Yuan 365,000,000 drained out of Manchoukuo into North China in the last three years. This total is offset by an excess trade balance with China in favor of Manchoukuo, for the three year period 1932-33-34, of M. Yuan 98,000,000 thus reducing the drain to Yuan 267,000,000. The 1935 statistics are not yet available but based on the above figures, it is fair to estimate that the total sum in round numbers drained out of Manchoukuo into North China, is M. Yuan 300,000,000.

In 1934, the taxes collected from the province of Hopei alone amounted to \$192,280,115, of which \$19,886,146 went for administration expense and \$40,000,000 for the Northern Military Group. The balance, some \$130,000,000, was carried away to the Nanking treasury. Over a period of three years, this drain would total \$390,000,000 from Hopei alone. Add the outgo from Shantung, which is probably nearly as much, and

we will begin to understand what is the matter with North China.

Now it is loudly asserted by Nanking that the United States silver policy has taken \$300,000,000 in white metal out of the country, and, because of this, the Government faces bankruptcy. With this as a justification Nanking has nationalized silver, issued paper notes and called in to the treasury all bank reserves and hoardings of the white metal.

It does not take an expert economist to understand these figures. They tell us that Japan pours her wealth into Manchoukuo to bring peace and prosperity to the people of the new state. A fair share comes back to her through excess of exports and in interest payments. She has created a phenomenal prosperity in the new state, but the beneficiaries, instead of depositing their savings in local banks, remit their gains to North China, which in turn passes it along in taxes to Nanking for the support of the armies maintained to keep them in subjection. Japan has indirectly supplied up to twenty-five per cent of the budget of the Nanking Government, which income is being used to fight her with or to prepare to do so,

which is the same thing. To divert attention from this assured source of revenue Nanking raises the cry to High Heaven that the wicked Americans are ruining the country. The good natured Americans who accept without question the Chinese side of any case, fall right into the trap and blame all of poor old China's woes on Japan.

And strange to say, even the Japanese do not seem to realize how they are being systematically milked for the benefit of Nanking, for we find even members of the Diet accepting the Chinese statement that the American silver policy is damaging Japan's trade with China and demanding that the Minister of Foreign Affairs do something about it. Yet the picture reveals that Japan is feeding her silver into China to an extent that more than counterbalances the American purchases. On the other hand American commercial interests are bringing pressure to bear on the Roosevelt Administration to recede from its silver policy before all American trade and the traditional friendship of the Chinese is irretrievably lost. There are signs that some measure of relief is being contemplated. The British, interested solely in protecting their own trade and huge investments in China, are also deeply sympathetic and seem willing to help out. They are not particularly interested in the part Japan is playing as Santa Claus to Nanking. In fact, they are probably unaware of her philanthropy.

The only financier who seems to understand the real situation is Japan's veteran Minister of Finance. Mr. Takahashi
(Continued on page 437)

Extract from Supplementary Documents to the Report of the League of Nations Commission of Enquiry. Study No. 3 "Chinese Migrations to Manchuria," Page 112.

Money Remitted from Manchuria to Shantung or Hopei

"It is impossible to estimate the amount of these remittances, but it is undoubtedly large. Family ties remain strong, even when the members are separated. The Chinese who settle on Manchurian soil are no doubt obliged during the first years of their colonization to devote all their profits to initial expenses, but once they are settled they can think of their families. Moreover, seasonal workers bring back part of their earnings from Manchuria to Shantung or to Hopei.

"The returning emigrants bring with them the silver coins, the Mexican dollars and yens which they have earned or which have been entrusted to them by their friends. According to the South Manchuria Railway Company, each seasonal worker after remaining six months in Manchuria can take back a sum of 80 dollars on returning to his native country. At least twenty million dollars have thus been brought each year into Shantung and Hopei.

"A large part of the transfers are effected by the banks. We have been unable to ascertain from the Bank of China the figure of the money transfers effected by it from one side of the Great Wall to the other. . . . These money remittances form an important economic link between Manchuria and China proper. They are also an indication of contact between the exiles and their families. As a matter of fact, the individual ties between the Chinese of the Three Provinces and those of Shantung and Hopei have kept the closeness of family relations. The extent of the money transfers is a sign of this, and the large number of Chinese returning to their province of origin at the time of the lunar New Year is another. Manchuria is a refuge for the inhabitants of Shantung and of Hopei in times of famine. Even during normal years it may be a source of income for the peasants remaining in their native villages."

Progress in Manchoukuo

A Remarkable Record

FOUR full years have now passed since a section of the South Manchuria Railway track was blown up by Chinese soldiers at Liutiaokuo, near Mukden, on the night of September 18, 1931. One cannot review the developments that followed the incident without a great deal of emotion. Manchuria and Mongolia, with a total population of 30,000,000, were once on the verge of ruin. But those great lands are now on the pathway towards peaceful empire, thanks to the untiring efforts of their people, the unchanging support of the Japanese Government and public, and more especially the strenuous campaign of the Imperial Japanese Army.

This new situation is not only a development of great economic and political significance but also a crusade for the peace of the world. The high moral principles embodied in the founding of the Empire have no parallel in the history of the world. Japan stood strong against intervention in order to carry out and support these moral principles. It is because of this moral decision of Japan that the Emperor and people of Manchoukuo, since the independence in March, 1932, have been consistently grateful towards Japan, relying upon its sincerity, trying to strengthen and further their relations with Japan, and thus paving the way to unity and co-operation among the Oriental peoples.

The amity between the two nations has been increased further by the signing of the Japan-Manchoukuo Protocol, the declaration of the hereditary imperial sovereignty in Manchoukuo, exchange of visits by Prince Chichibu and the Emperor of Manchoukuo, and more recently by the establishment of the Japan-Manchoukuo Joint Economic Commission. Japan's aspiration for the sound growth of Manchoukuo resulted in her withdrawal from the League of Nations, her aid in taking over the Soviet interests in the North Manchuria Railway, and her campaign to bring about peace in North China contiguous to the Manchoukuo borders. The improvement of the situation thus ushered in is a surprise to the people of the world at large. Naturally, they are obliged to take a more unprejudiced view of the new Empire and to understand better the Japanese policies. The recent decision of Japan to abolish extrajurisdiction in Manchoukuo and abandon her administrative authority in the railway zone is nothing more than an endorsement of the remarkable improvement of peace and the general conditions in the new Empire. The various strides made by Manchoukuo since her independence are outlined below.

Public Peace and Defense

Public peace and order in Manchoukuo have been improved to a great extent as a result of the punitive operations of 1933 against the bandits in Jehol, who were a cause of disturbance, and later round-ups, conducted from the fall of 1933 to last spring, against bandits who occupied parts of Kirin and Fengtien Provinces.

Bandits and brigands were estimated at 300,000 at the outset of Manchoukuo's independence. But the number has recently dwindled to only 20,000 throughout the Empire.

More than 500,000 rifles, revolvers and pistols have already been condemned, taken from unlawful holders in the past, although more than 1,500,000 firearms are still owned illegally by different elements throughout the country. On the other hand, communists, malcontent Koreans, and other elements who are imbued with rebellious thoughts and dangerous political ideals are at large in some parts of the country, necessitating the presence of the army and armed police. Consequently, the maintenance of public peace is still the first and foremost preoccupation of the nation. The presence of the Japanese Army is, therefore, not only indispensable for peace and order but an important pillar for the development of the country.

The Army of Manchoukuo is being reorganized into a modern and systematic fighting unit, having displaced all the private soldiers maintained by warlords prior to the incident. It numbers at present some 80,000 officers and men, divided into five garrison districts and four divisions in Hsingan Province, in addition to the Peace Preservation Army which is directly attached to the War Office, and an independent cavalry brigade to guard the capital.

The Navy has a River Defense Squadron, consisting of 13 ships, a total of 2,000 tons, which cruise on the Sungari, the Amur and the Ussuri.

The Army and Navy, however, are not quite up to par at present, and they must be improved considerably in the future in respect to their general qualifications, organization and equipment. The military authorities are concerned primarily at present in the question of unifying the thought and strengthening the morale among these soldiers and sailors. Both the fighting services, though intended primarily for garrison purposes, are being trained so that they may be employed effectively in defense of the country in time of need, in co-operation with the Japanese Army.

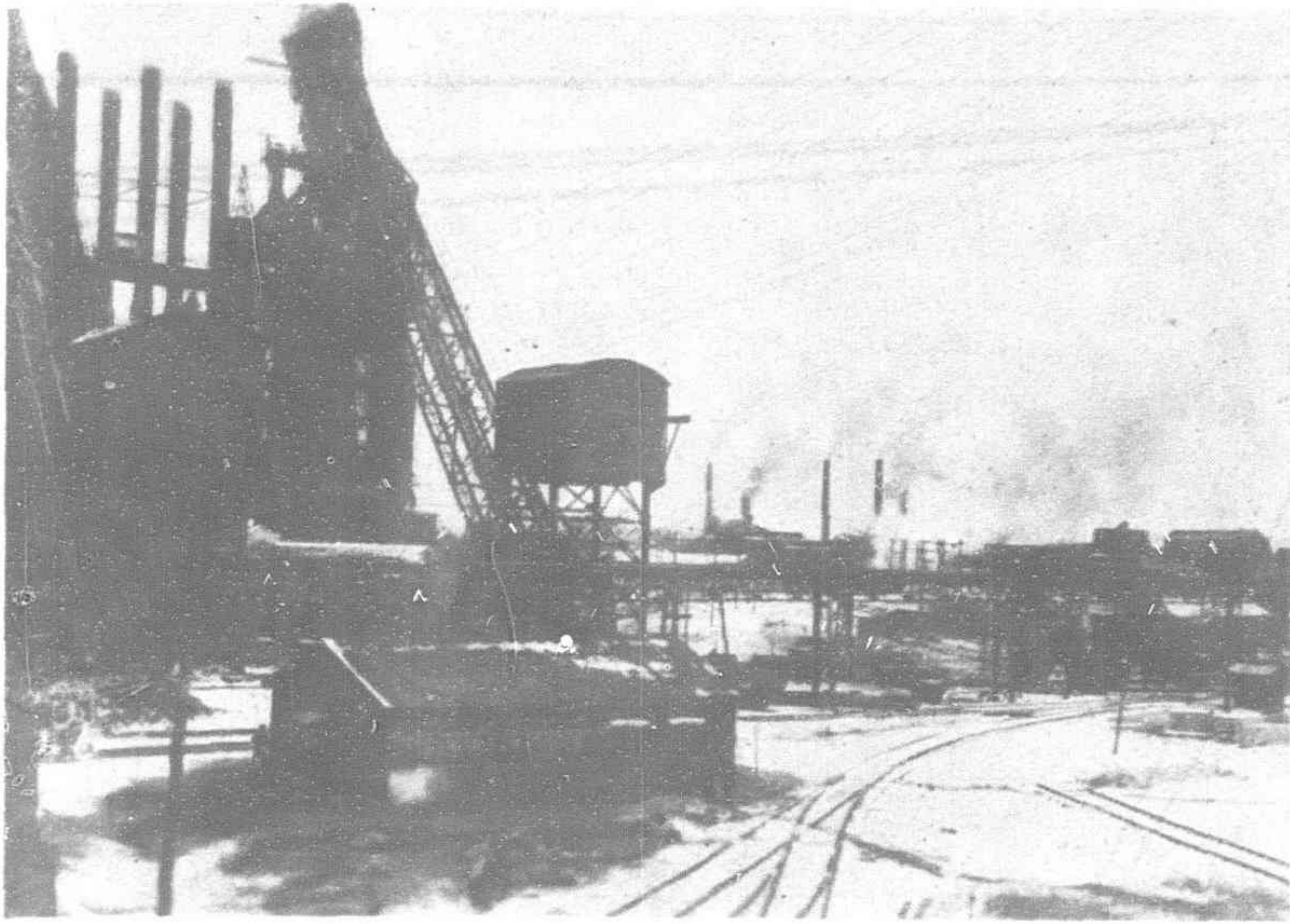
The police system has also been improved since the Independence. Ordinary police are trained at the Central Police School at Hsinking. The Government maintains special police services, such as the Patrol Corps on seas and rivers, Special Guards along borders, and travelling police patrolling between principal cities. The present force of Manchoukuo police totals some 100,000 officers and men. The number will be decreased, to a total of 60,000 in the future with, however, better training and stricter discipline.

The police system, however, has not yet been fully improved as a whole. One feature which has hardly a parallel in any other country is the system of specially trained groups, organized among the police themselves, which is practically an army unit in organization and equipment. The group not only keeps guard against bandit rampancy, but makes quick descents on rebels wherever found.

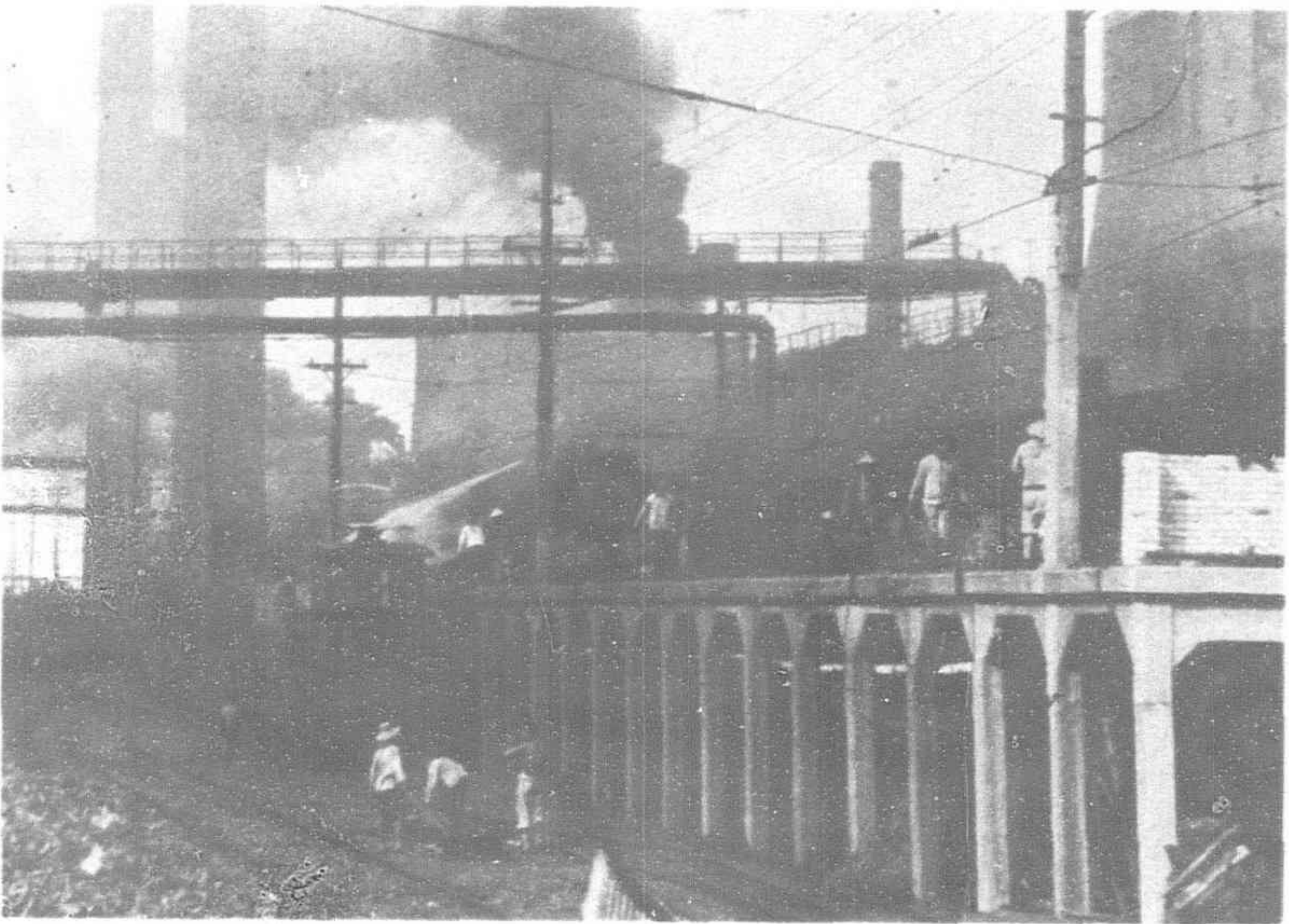
Besides the above-mentioned police bodies, there is another protective system for the people themselves, namely the Paoweituan, or the Local Protective Corps, an auxiliary police organized by local residents for the



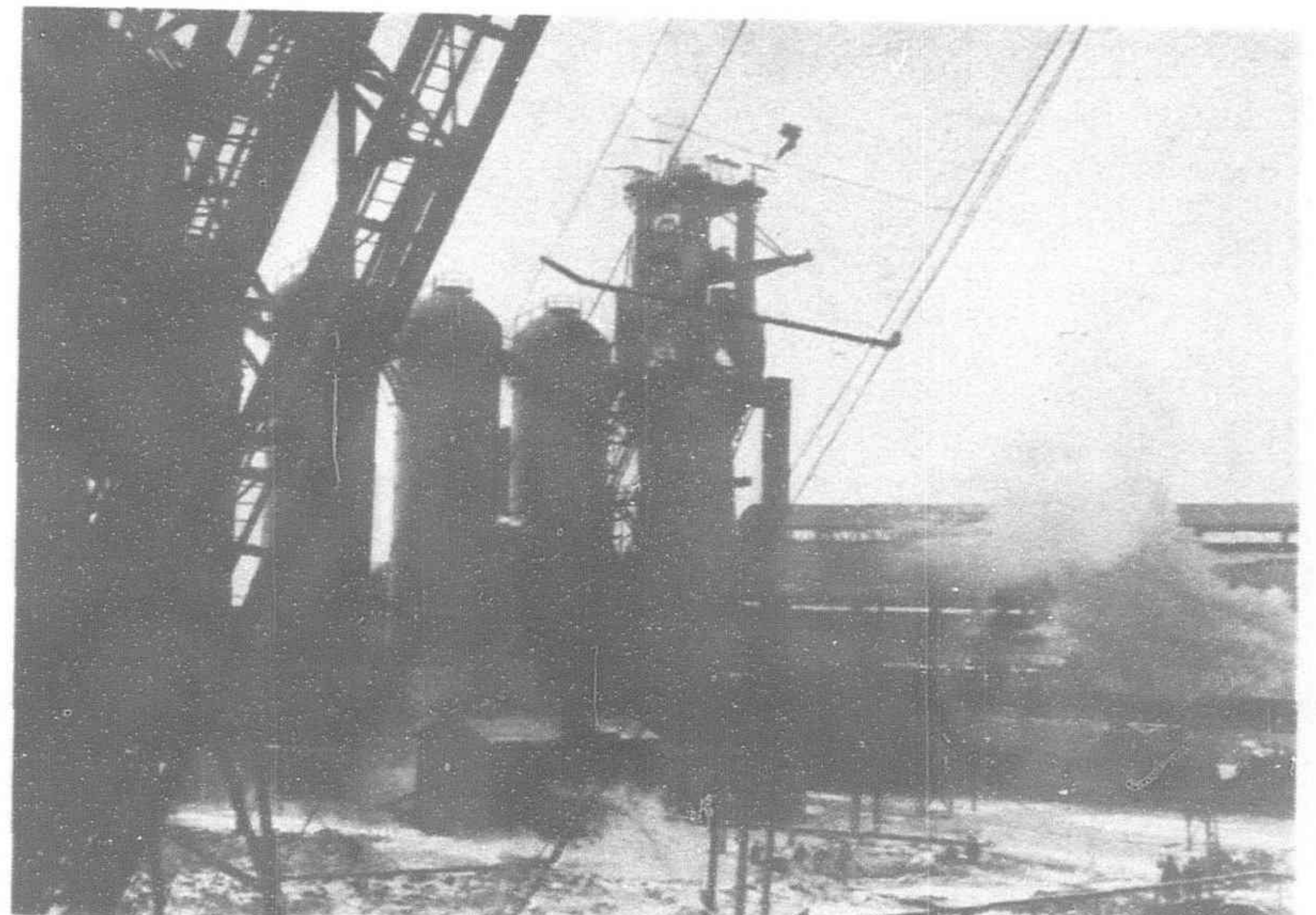
Scene pictured on the pier at Dairen showing immigrants from North China on their way to the Manchurian Bean Fields



Two views of the Showa iron works at Anshan



The Coking Plant of the Showa Steel Works



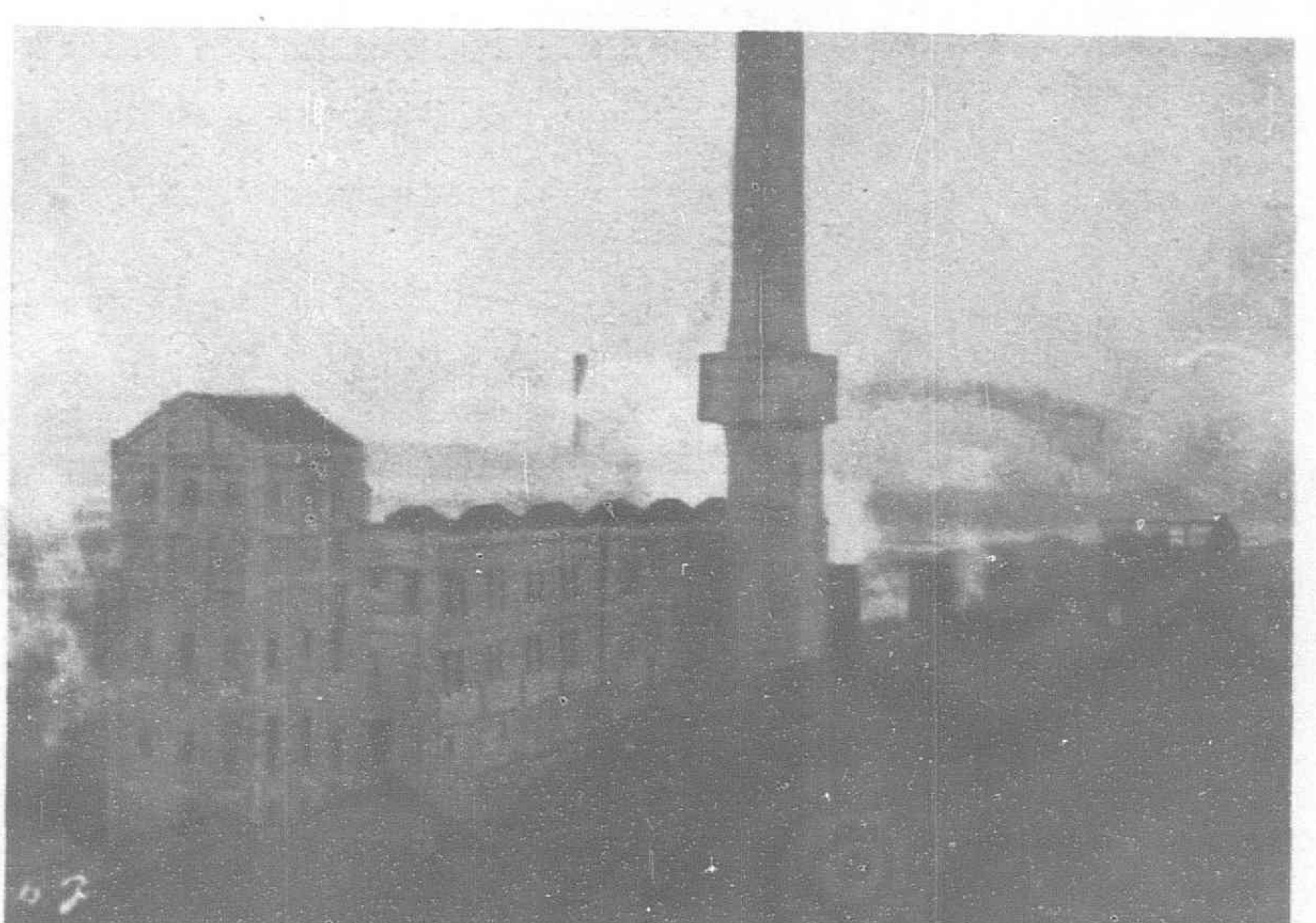
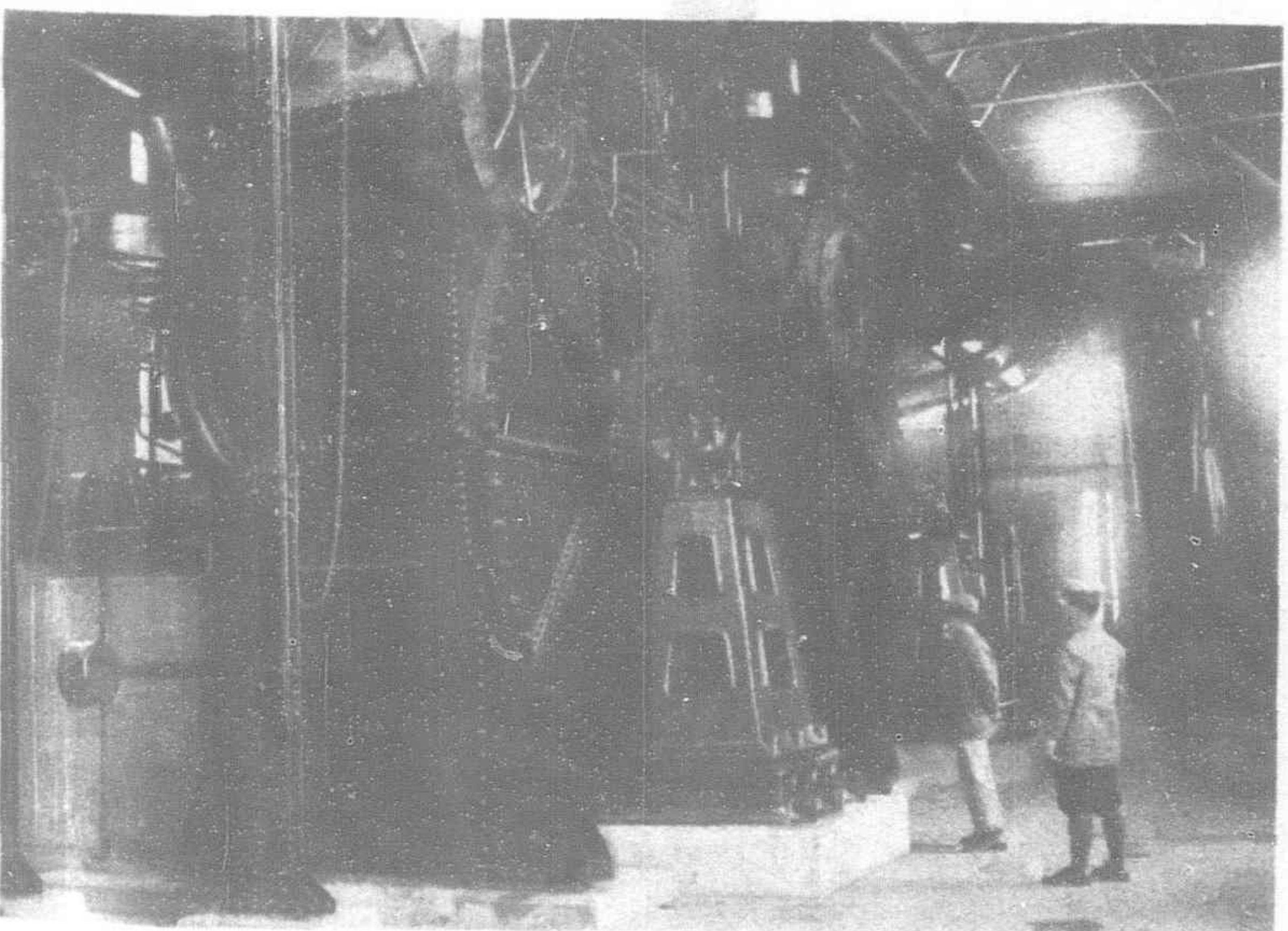
Furnace at the Showa Steel Works

protection of their lives and properties. The system was born of the special social conditions peculiar to Manchuria, and was recognized by a special law which was promulgated on December 22, 1933, and put into force from the first day of 1934.

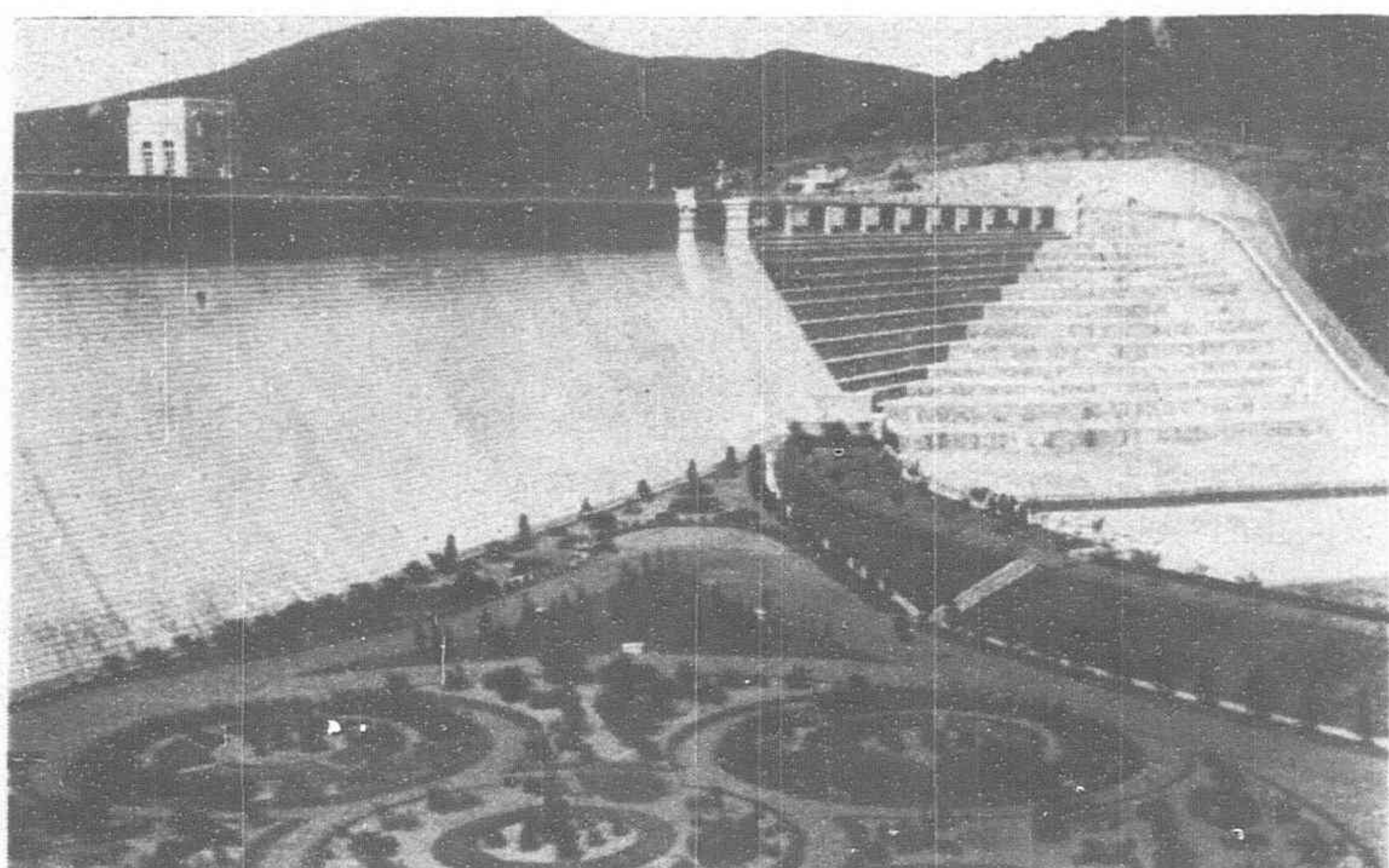
Economics

Japan's economic policy towards Manchoukuo is to help and enable the latter to build up an independent economic unit which

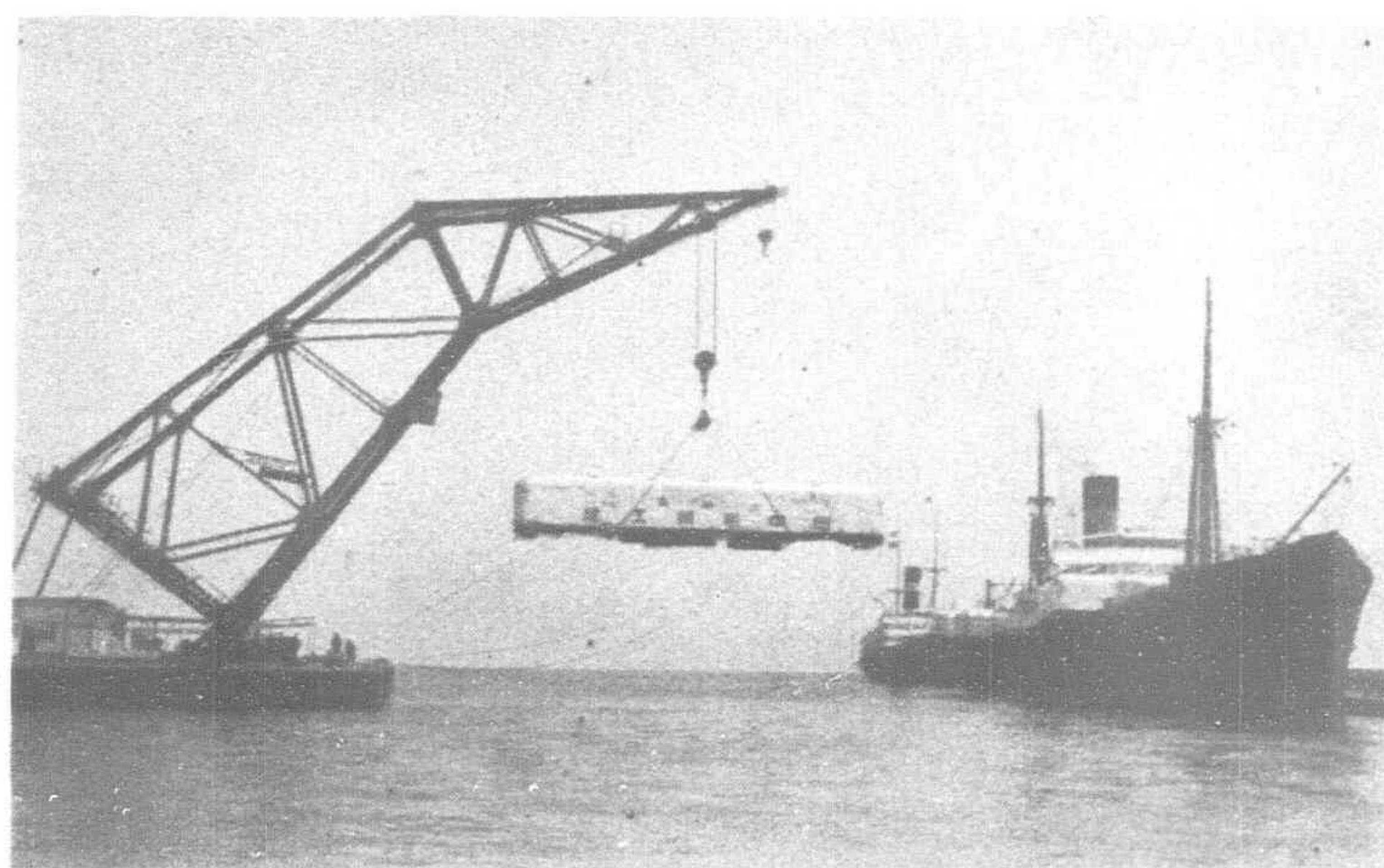
is closely related to the economic system of Japan, in order to advance and stabilize the economic life of both nations in the spirit of mutual existence and prosperity. For such ends in view, it was felt necessary to come into closer co-operation and fuller understanding on all important economic problems between the two nations. In order to meet such necessity, the two Governments concluded a new treaty on July 15 last, which provides for the establishment at the Manchoukuo capital of the Japan-Manchoukuo Joint Economic Commission. It is an advisory organ for both



Interior and Exterior views of the Shale Oil Plant at Fushun



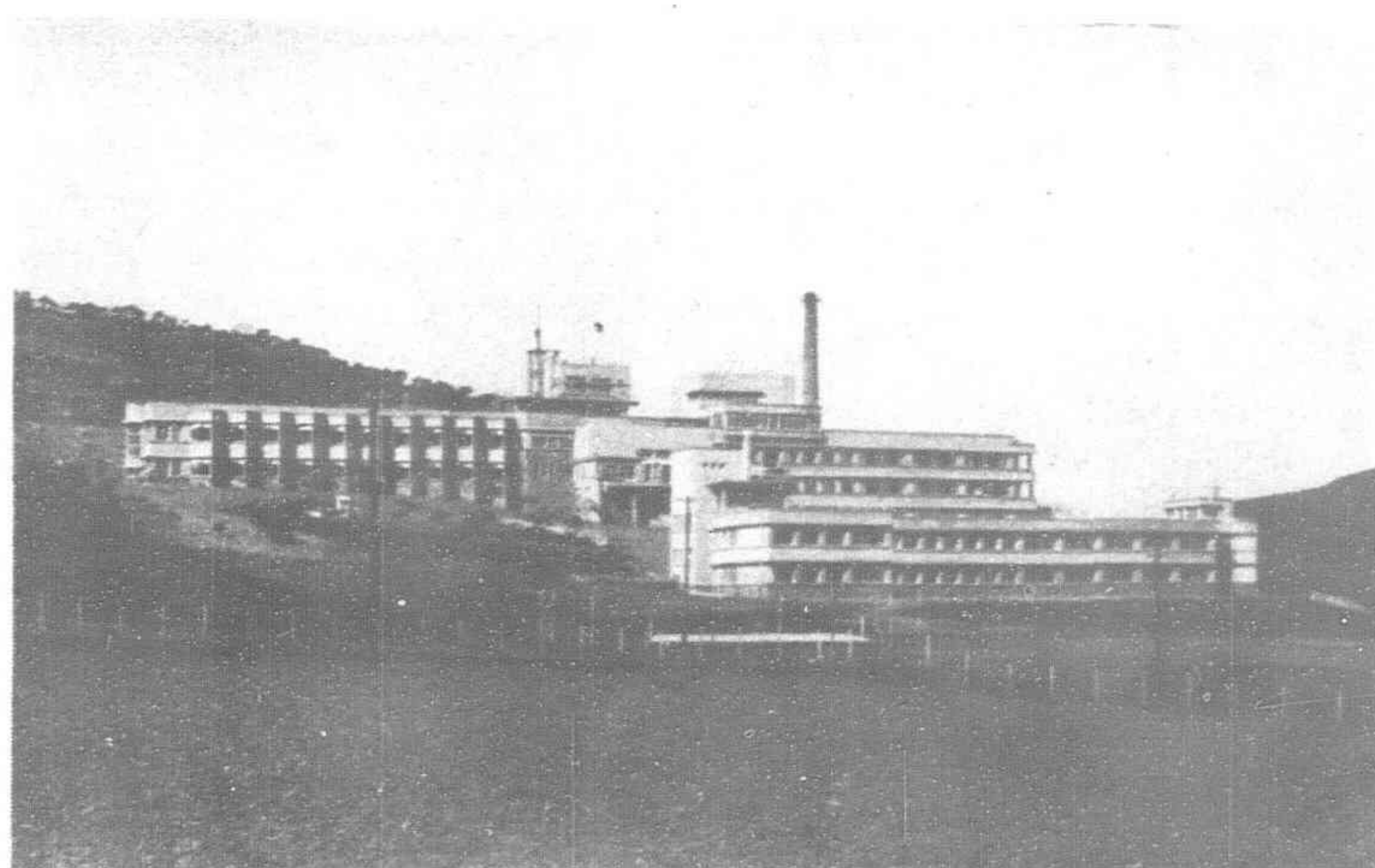
1 Reservoir at Rynoto Dairen



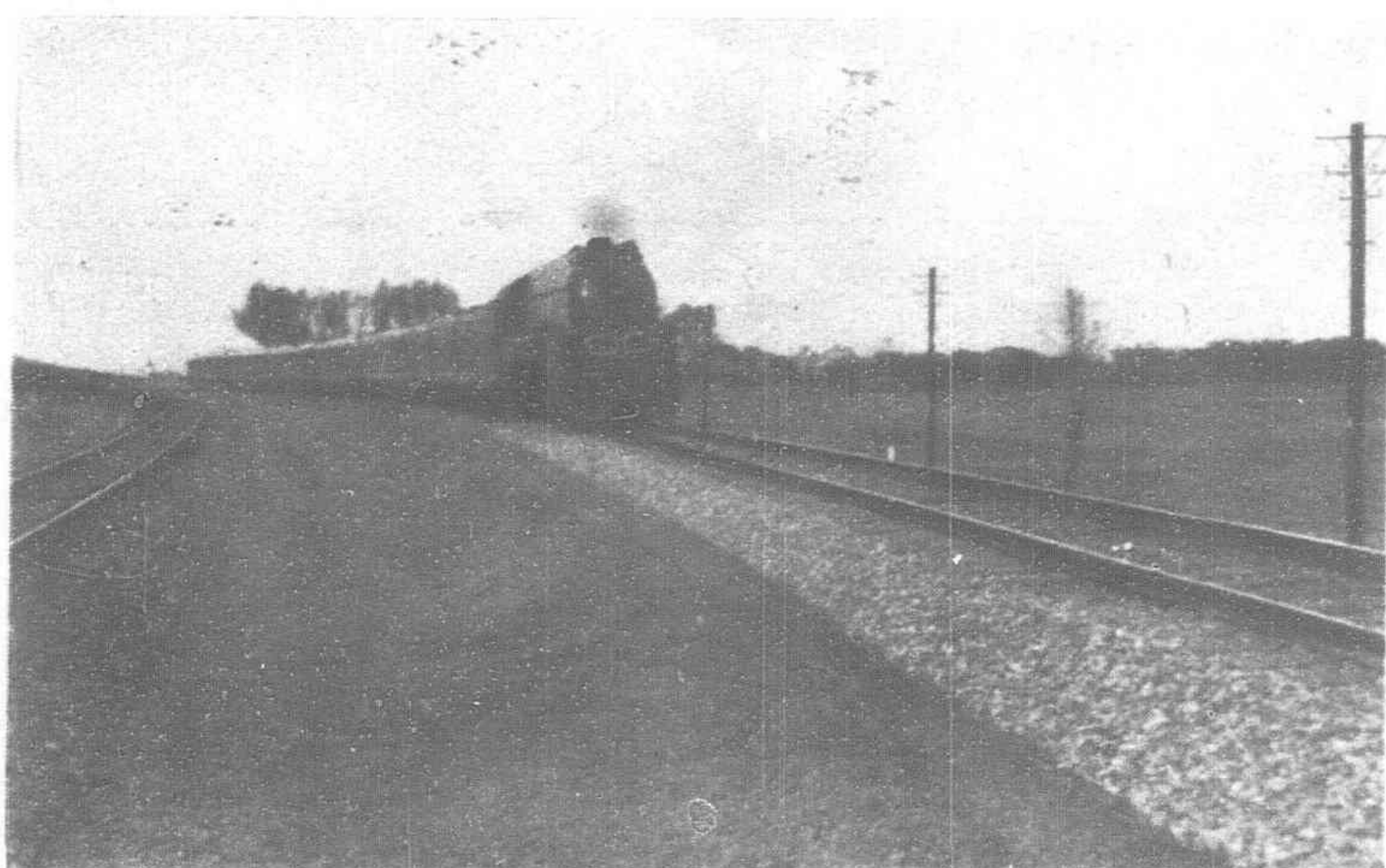
2 Operating a 120 ton Crane at Dairen



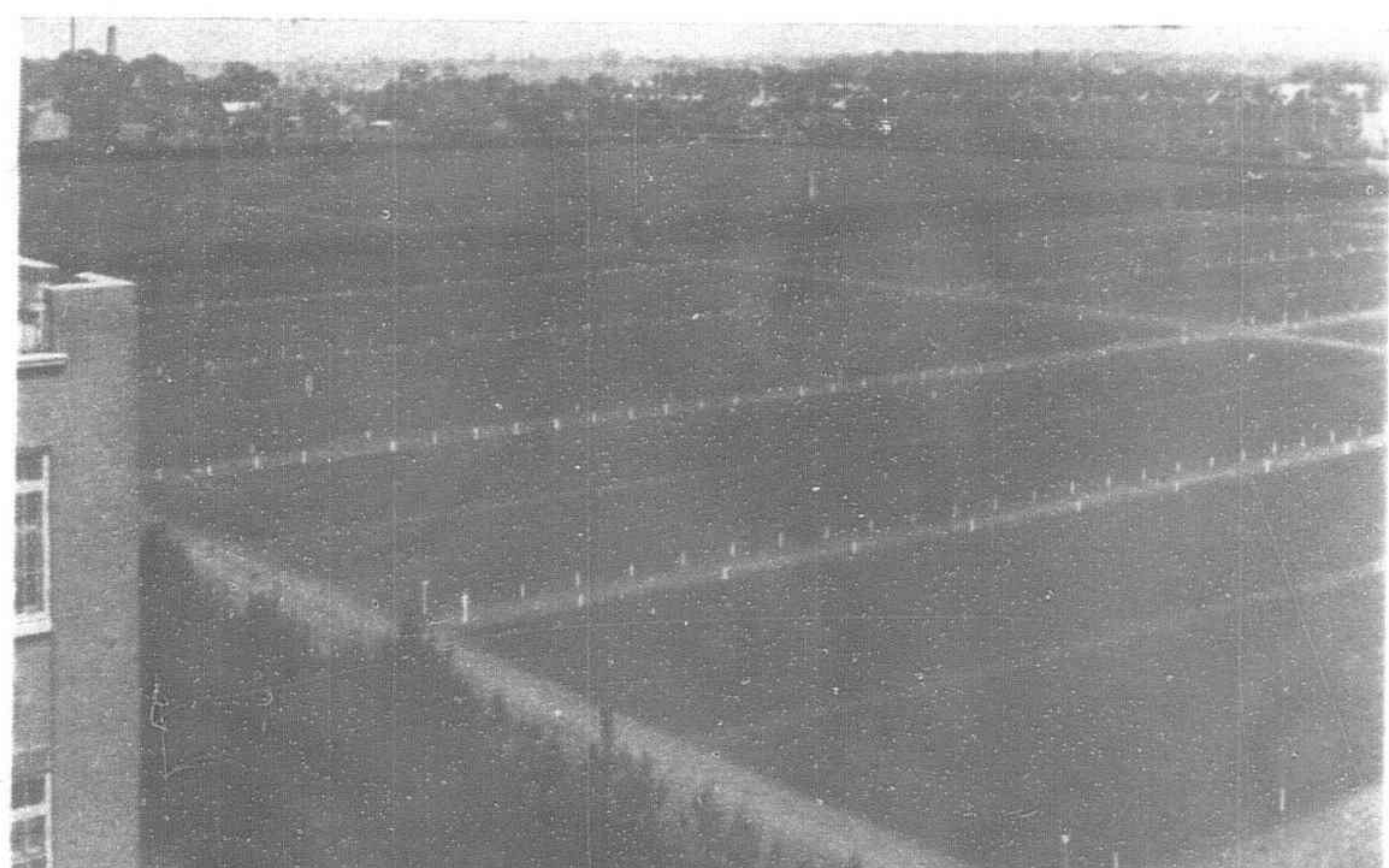
3 The Water Front at Dairen



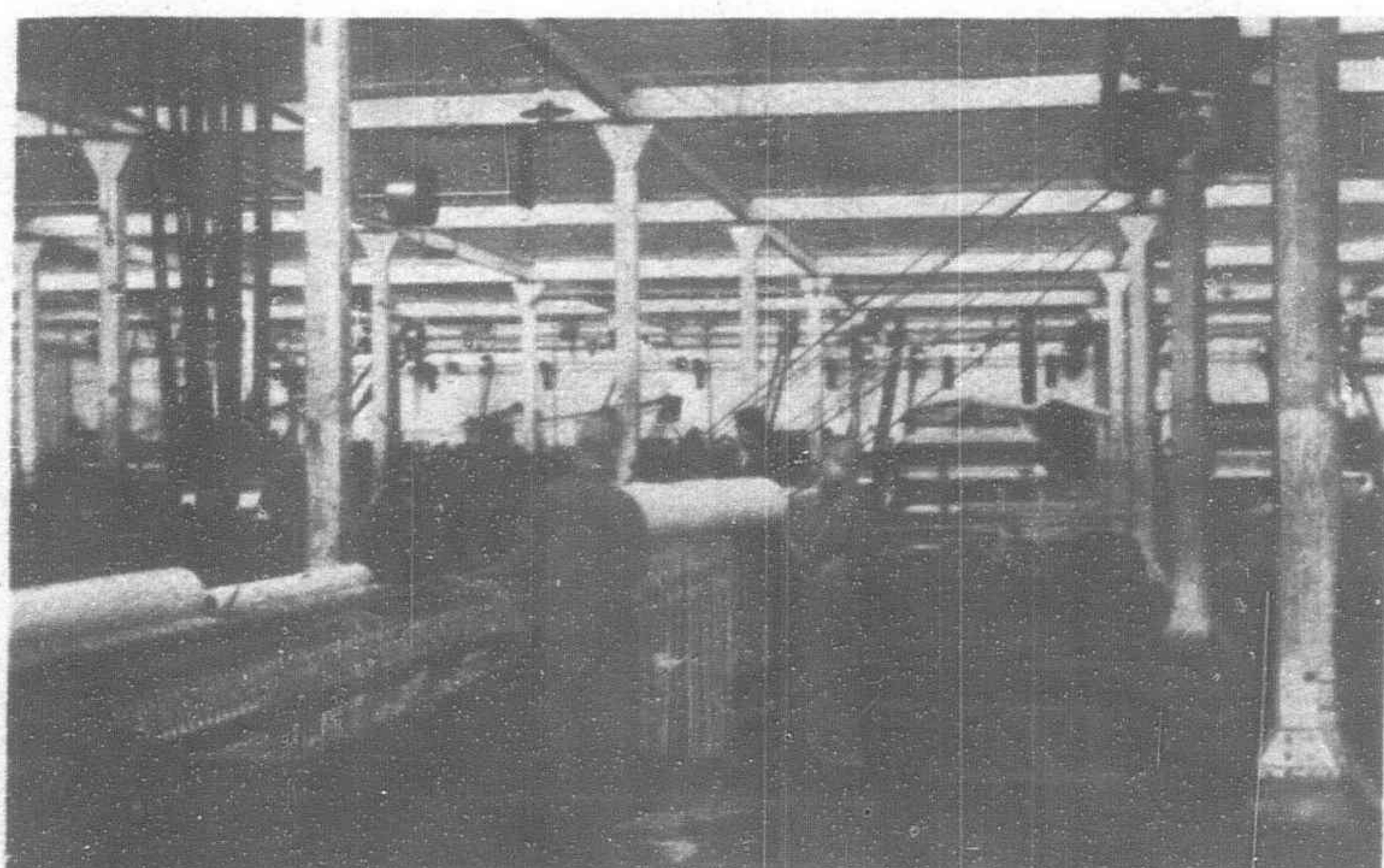
4 Sanatorium of the South Manchuria Railway at Dairen



5 The new Super-Stream-Lined Train "Asia" which is in service between Dairen and Harbin



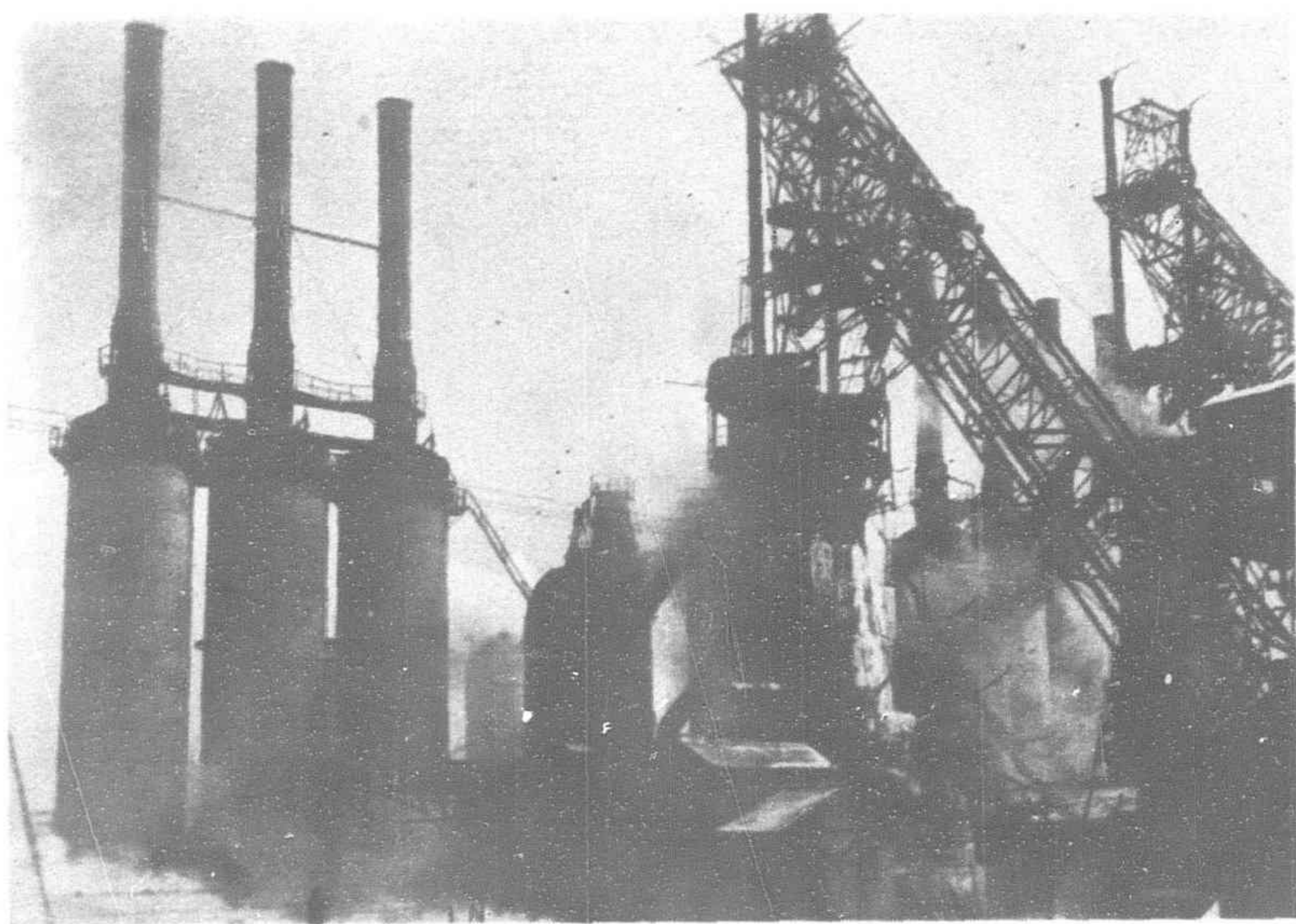
6 An Experimental Farm at the Agricultural Station at Kungchuling



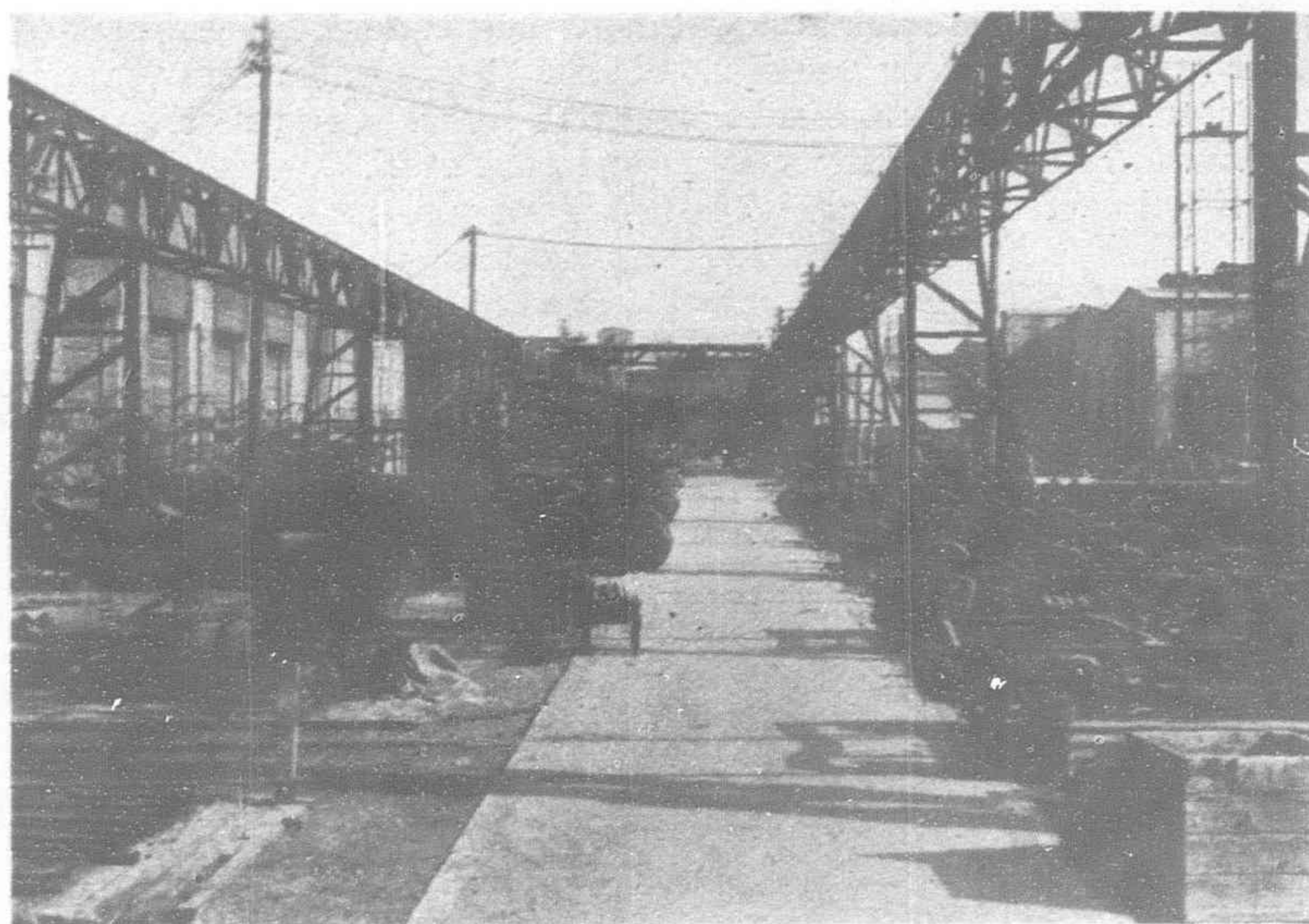
7 A Cotton Mill in Manchoukuo



8 Railway Station of the Manchoukuo State Railways at Harbin



Penhsihu Colliery and Iron Works



Railway Shops at Shakako near Dairen

Governments to answer questions about important problems on economic relations between the two countries and on supervision over the special chartered corporations established jointly by Japanese and Manchoukuo capital. It is also authorized to make recommendations on all problems bearing on economic co-operation.

The most outstanding characteristic of Manchoukuo economic principles is the large scope and great extent of national control. This control is necessary for three reasons: firstly, that economic co-operation should be attained to the utmost degree between the two nations: secondly, that the welfare of the nation as a whole, instead of the specially privileged classes, should be considered first of all: thirdly, that those industries which have direct bearing upon defense should be established and developed more particularly than all others. The Manchoukuo Government issued an important statement on June 27 last, making definite the scope of national control over industries, which reads in part:

"The Government, after careful deliberation on its part and discussion with the parties concerned, has decided to resort to some special measures for the control of those industries which have direct bearing on national defense or those which are indispensable for the development of other industries, such as, for instance, transportation, communications, iron and steel, light metals, gold, coal, petroleum, oils, automobile, ammonium sulphate, soda and lumber. All other industries which are not specified above shall be left open to the free activity of private firms, unless otherwise provided for by general administrative measures depending upon the nature of such various other industries."

(1) The Manchoukuo Government entrusted the management of its railways, ports, harbors and rivers to the South Manchuria Railway Company under contract. The North Manchuria Railway,

which was recently transferred to Manchoukuo from Soviet Russia, was also placed under the management of the company. Under this arrangement, the railway service in that country as a whole is being consistently systematized by the company. The South Manchuria Railway Company has increased its capital to Y.800,000,000 with a view to accomplishing the work assigned to it by the Manchoukuo Government. According to the new plan, approximately 3,000 kilometers of railway lines are scheduled to be constructed during a period of six years beginning 1933 at a cost of Y.600,000,000. About one half of the lines on the program have already been constructed.

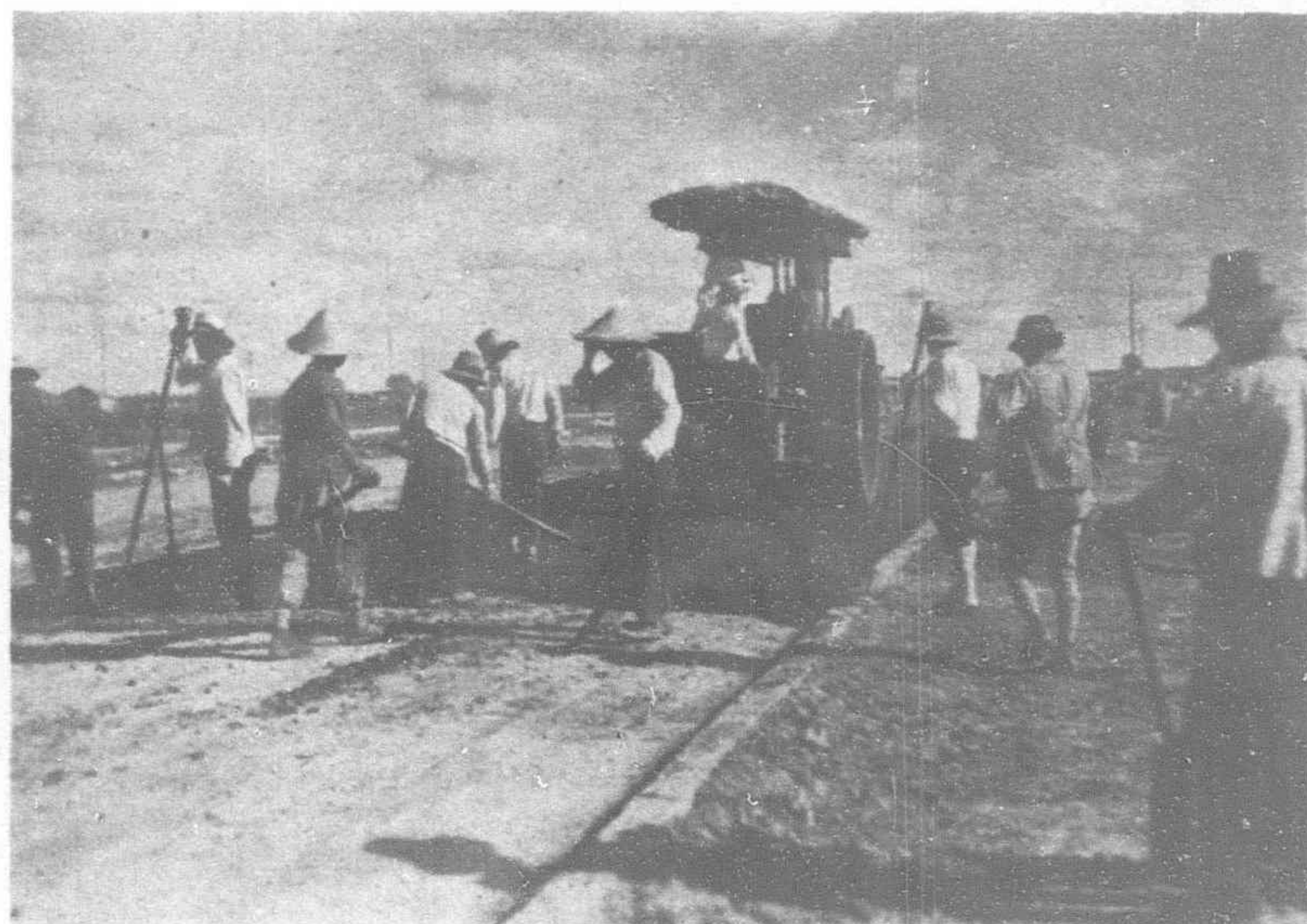
(2) The Manchoukuo Air Transportation Company was organized in 1932 with a Japan-Manchoukuo capital of Y.3,850,000 (Manchoukuo currency) for the development of air routes in that country. The company monopolizes the air transportation industry and has already developed 15,000 miles of air routes since its inception.

(3) As for the telephone and telegraph services, the Manchoukuo Telephone and Telegraph Company was established under joint capital and put into service in September, 1933. The company aims at unifying the telephone and telegraph service operated in Kwantung Leased Territory under the Japanese regime with those under the management of the Manchoukuo Government, the provincial government, and the municipal government, as well as with those of private management. It monopolizes the wire and wireless telephone and telegraph services and the radio broadcasting industry. The authorities of the Japanese and the Manchoukuo armies are authorized to instruct the company on matters which have important bearing on military service.

(4) Road construction is very important from the viewpoint of national defense as well as for military expeditions against



Railway Workers Camp in Manchoukuo



Road Construction Work in Manchoukuo

bandits. From this consideration, construction work is being carried on as rapidly as finance permits. About 34,000 kilometers of roads are scheduled to be completed within five years. Construction work was started last year with an appropriation of Y.30,000,000.

Special efforts are being made to develop as speedily as possible the particular industries which are essential to Japan's national defense in an effort to make herself self-supporting of raw materials. The old arsenal at Mukden was put into operation, according to the modern system, in May, 1933. The Showa Iron and Steel Works, the Manchoukuo Chemical Industrial Company, the Manchoukuo Petroleum Company, and the Dowa Motor-car Company are some of the organizations carrying out this industrial policy. The Manchoukuo Mine Development Company is scheduled to be established for the preservation of mineral resources and the development of mines. Mining rights have to be acquired from the Manchoukuo Government through this company for the development of a mine.

Natural resources in Manchoukuo are varied and abundant, making the agricultural, mining, live stock and other kinds of industries promising. When they are developed, Japan will have, in sufficient amount, the raw materials she lacked hitherto. With the development of such industries, she will become a self-sufficient nation in important raw materials for her war industry in such as iron, coal, light metals and ores.

The natural resources in southern Manchoukuo and the railway zones have been thoroughly investigated, but the results of investigation in other parts of the country are still inaccurate and unreliable. Since research work is the important condition for proper industrial development, the authorities are fully aware of the imperative necessity of making a thorough survey in the area beyond southern Manchoukuo.

Japanese immigration into Manchoukuo will contribute much to the development of that country. The presence of Japanese immigrants will go a long way towards the realization of the principles of give-and-take between the two countries. Moreover, Manchoukuo, as an outlet for Japan's superfluous population, will constitute a factor for the solution of her agricultural problem.

Several Japanese agricultural colonies, with an aggregate membership of 1,000, have been planted in various sections of that country as trial colonies since 1932. The first group settled at Yungfengchen, south of Chamussu, and the second one at Funanying, south of Yungfengchen. They are now firmly established and well on their way to success. The third group which was planted at Suileng in Chiupinkiang, last year, is making favorable progress. The experiences of the past three years in this connection are convincing proof that Japanese agricultural immigration in Manchoukuo on a profitable basis is quite feasible. There are about 2,500,000 acres of land set aside in the north-eastern part of Kirin for Japanese agricultural immigration, and the time has come when the Japanese Government should formulate a definite immigration policy.

Efforts are also being made to send Japanese immigrants to Manchoukuo for the promotion of the manufacturing industry. Immigration of this kind is aimed at diffusing Japanese efficiency in the manufacturing, mining and transportation industries.

Korean immigrants in that country have been concentrated under Government protection and guidance to secure stability of living for them. As this work has been nearly completed, the Japanese authorities are making efforts to induce a fresh migration of Koreans from Chosen to settle in Manchoukuo.

The Manchoukuo Government, at the outset of its national career, went about the task of relieving the people from the heavy financial obligation and at the same time sought to establish a firm financial foundation for the new state without oppressing the economic condition of the people. Such was the general financial policy, and the Government finally succeeded in laying a fairly sound financial foundation by reforming the financial administration of the former regime.

The Manchoukuo fiscal budget for the year 1932 was Y.113,000,000 for expenditure and Y.100,000,000 for revenue. The deficit of Y.13,000,000 was made up by a loan secured from the Central Bank. The budget in that year, however, was formed with Y.15,000,000 on the side of expenditure as reserve fund. The financial condition was so favorable that the Government had a surplus of more than Y.15,000,000 at the end of the fiscal year.

The revenue and expenditure in the following fiscal year were Y.149,000,000. A public loan of Y.7,000,000 which was

authorized as a part of the previous fiscal budget for financing road construction was secured for the present fiscal year, but no loan for making up budget deficit was necessary. The financial condition in that year again turned out favorably with a surplus of Y.15,000,000. The amount was carried over to the fiscal year of 1934.

The total amount of fiscal budget for 1934 was Y.189,000,000. The Government continued its effort not to go into debt. The principal items of revenue for this year were taxes totalling Y.140,000,000, and Y.8,000,000 of monopoly profit, making the financial condition all the more sound. It was in that year that the Manchoukuo Government contributed to the Japanese Government Y.9,000,000 for financing a part of the expenditure for military operations against bandits in that country. The sum was turned over to the Japanese national treasury in June this year. The fiscal year 1934 also realized a certain amount of surplus, and Y.5,510,000 out of it was carried over to the present fiscal year.

The Manchoukuo Government is planning to effect a fundamental readjustment and revision of domestic taxes, to form a sound policy for the salt administration and to rationalize the Japan-Manchoukuo economy.

The Manchoukuo Government adopted a policy of circulating currency, the unit of which is equivalent in value to that of Japan, for the purpose of securing the Japan-Manchoukuo economic unity. Such an arrangement, however, was practically impossible at the beginning of her national career due to the confusion in currency system. The Government under the circumstances made efforts to withdraw all the notes in circulation by introducing the new national silver currency as a measure to unify Manchoukuo currency. As a result, the Central Bank, which was opened on July 1, 1932, succeeded in retiring 97 per cent of corrupt old notes by circulating Y.140,000,000 of new national currency. At present the Manchoukuo monetary unit maintains almost equal status with that of Japan.

Japan's fundamental policy towards Manchoukuo is the development of that country as a healthy, independent state, maintaining an inseparable relation with the former for the stabilization of the Far Eastern situation. Manchoukuo has been rapidly gaining in health and strength by improving her economic and administrative machinery. In preparation for abolishing extra-territoriality, she is reforming her judicial, police and taxation systems, following the example Japan set in this respect. For this purpose, she appropriated Y.8,000,000 last year.

Extraterritorial rights were an important asset to Japan in her development in Manchuria before the foundation of Manchoukuo, but have become irrelevant under the new relation between the two countries. Moreover, they constitute an obstacle to a healthy development of the new state and the promotion of closer relations between the two countries.

Before the outbreak of the Manchurian Incident, the Japanese population in the railway zones and outside totalled approximately 115,000. It has now increased to 260,000. The Japanese population in Kwantung Leased Territory, the South Manchuria Railway zones and in the area outside of the zones is as follows:

Kwantung Railway Zones Outside the Zones

(The figures in parenthesis are the number of Korean immigrants.)

1930	..	..	116,052	97,472	14,260
			(1,794)	(20,557)	(564,768)
1931	..	..	119,770	100,268	13,282
			(1,747)	(20,794)	(608,441)
1932	..	..	125,935	116,589	29,733
			(2,002)	(27,956)	(597,504)
1933	..	..	(2,259)	(27,333)	52,159
					(644,202)

Manchoukuo to Build Railways

The Manchoukuo Government has announced the projected construction of three new railway lines to be built under contract with the South Manchuria Railway. The cost is estimated to total Y.40,000,000. These new lines are:—

				Kilometers
(1)	Linkou-Mishan Line	..	..	About 180
(2)	Solun-Wenchuan Line	..	..	150
(3)	Ssupingkai-Sian Line	..	..	80

MORE BEANS

An Empire Built on Beans

Cake, Oil, Foodstuffs, Chemicals, Fuel and Lubricants Developed by Advanced Engineering from the Lowly Soya Bean

THE economic growth of Manchoukuo depends upon the development of her agriculture and this, in turn, hinges almost wholly upon the soya bean, and the industrial applications which may be found for its oil. For this reason the railway company has been lavishing its resources in developing new chemical processes for the treatment of soya beans and to derive new chemical products from the oil. Many scientific institutions and chemical firms in Japan have also been working along the same lines.

Manchuria produces annually some 6,000,000 tons of soya beans, valued at 470 to 480 million yen. Of this, some 2,000,000 tons are exported to European countries, Germany taking the bulk. The balance is mechanically pressed or chemically treated into soya bean oil by mills in Dairen and the oil produced is shipped to Europe and America and the residual cakes and flour are consumed as fertilizer, animal fodder and for other purposes.

Japanese chemical engineers are concerned at present with how to obtain a larger oil extraction, discover a new solvent to free the oil from impurities, to prevent deterioration which may prevent the oil from being used for food purposes, and how it may be prepared into foods, paints, plastics and other products. Already there have been many notable developments in such fields, some of which have been, or are being, founded as new enterprises not only in Manchoukuo but also in Korea and Japan.

From time immemorial, soya beans have been pressed by primitive methods by the Manchurian natives. Then came the more modern hydraulic plants. But even such methods have been superseded in the larger and more efficient plants, which employ a solvent, benzol in most cases, in which the oil content of soya beans is first dissolved and then separated by a mechanical separator. It is claimed that benzol extracts 15 per cent of oil content.

Research work of the chemical engineers of the South Manchuria Railway has resulted in the utilization of ethyl alcohol as a solvent which, it is declared, extracts an oil of 19 or 20 per cent out of 100 parts of soya beans. The new process was perfected by Dr. Masayasu Sato of the Central Experimental Laboratory of the S.M.R., who set about such development work early in 1926. The merits of his process lie in the larger output of oil, easier separation of oil from the solvent which is carried out by simple cooling and filtration, and the wholesome quality of the resultant oil which may be utilized for edible purposes without further treatment. The process has already

been granted patents in Japan, Great Britain, France, Italy and in Denmark.

Dr. Sato's process is employed in the plant of the Manchurian Soya Bean Engineering Company, whose capital of Y.1,500,000 has been subscribed by the South Manchuria Railway Company and by the Nippon Food-Stuff Engineering Company (a subsidiary, of the Nippon Sangyo K.K.). The firm has its main plant at Jijiko on the outskirts of Dairen. It has been operating since last spring, with a capacity to treat 80 tons of soya beans a day. Its factory extension program, under way at present, will enable it to treat 300 tons a day.

The company has already discovered a number of new processes to convert the oil and residual cakes into diversified products, such as lecithin, vitamin-B, flavoring condiment, plastics, saponin, raw sugar and others. Its cakes, given a trade name of "Soyarex Flakes," is reported to present great possibilities as a food-stuff. In order to prepare these subsidiary products, the company established recently a new subsidiary, the Manchurian Soya Bean Products Company, capitalized at Y.200,000, which is building its factories at Kauasaki, near Yokohama.

Close upon the announcement of Dr. Sato's discovery, the

Nippon Nitrogenous Fertilizer Company, an ammonium sulphate enterprise capitalized at Y.164,316,000 has reported success in developing another new process which utilizes acetone as a solvent. This process, has its special advantage in the finer quality of residual cakes, which may be converted into flavoring condiment and plastics as substitute for casein. The sodium glutamine derived from the cakes is considered as a possible great rival to "Aji-no-moto," a seasoning condiment or extract widely used in Japanese kitchens. This company established last April the Soya Bean Chemical Engineering Company, a subsidiary capitalized at Y.10,000,000 of which Y.2,500,000 was paid up, for the exclusive manufacture of more than a dozen products from soya bean oil and cakes. The new firm is preparing to build its initial plant at Konan, Korea, the site of many chemical industries of the mother firm. Among the list of products are several entirely new derivatives, such as, amino acid, water paint, boiled oil and lecithin as tanning chemical.

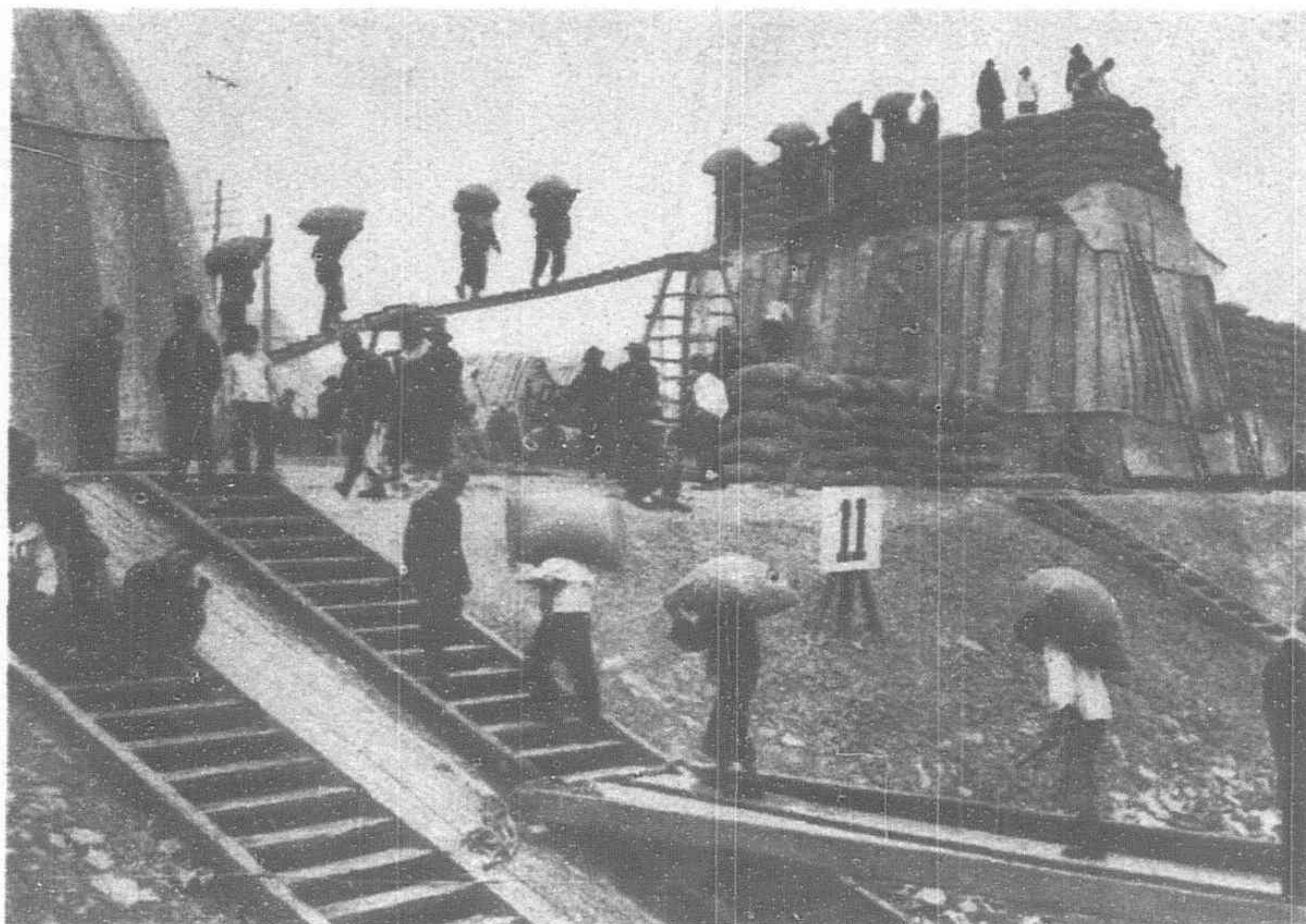
There are many other firms entering the field of soya bean chemistry. The Honen, Nisshin and Nikka, three prominent oil mills, are all considering the starting of subsidiary enterprises allied to the soya bean oil industry. The Consolidated Oils and Fats Company and

The Drama of the Soya Bean

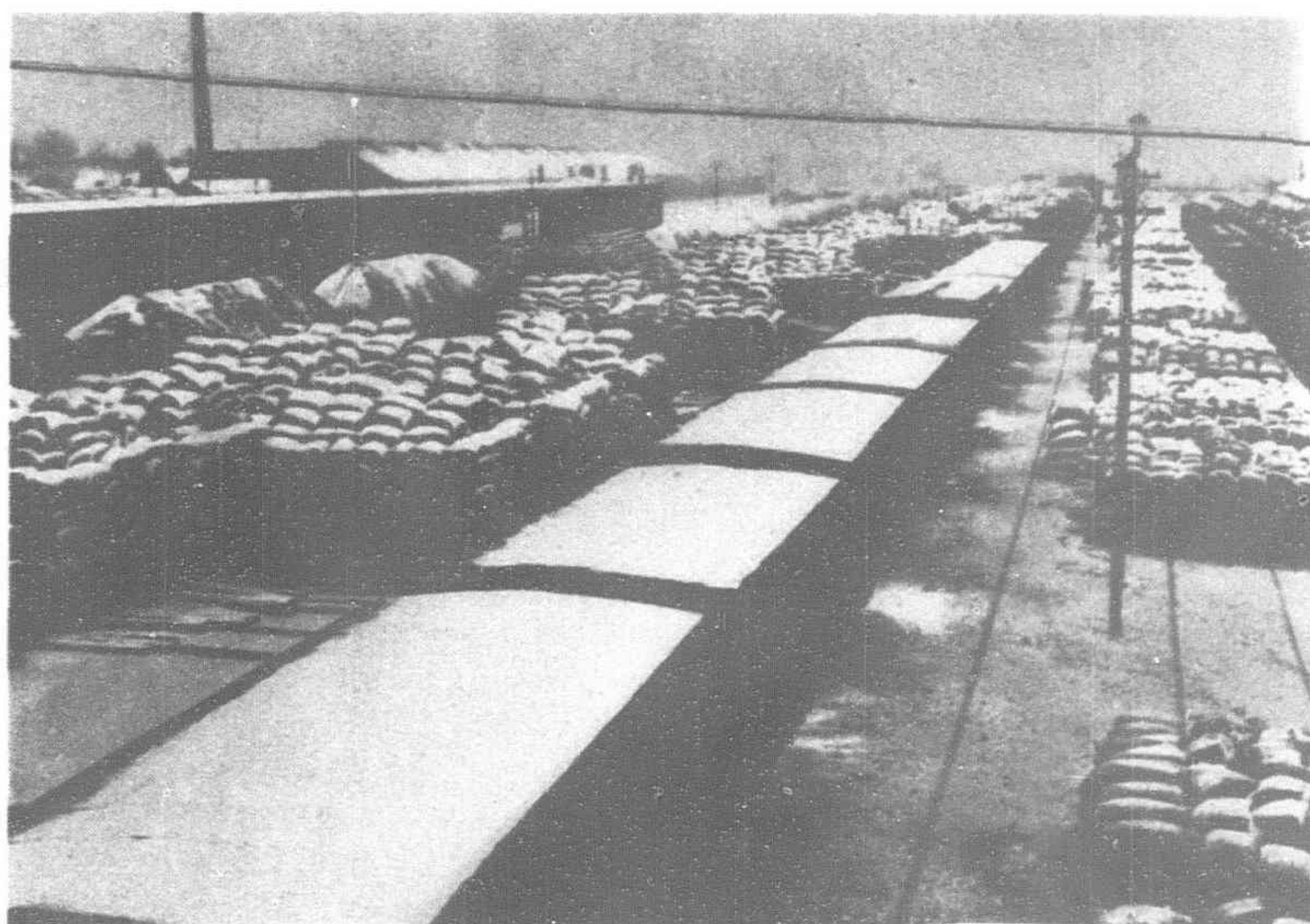
Many years ago, in 1908, as the result of one of the first visits of the Publisher of this magazine to Manchuria, he wrote an article entitled "BEANS." He foresaw, then in its infancy an experiment in agriculture and enterprising trading, that was destined to have an important bearing on the future of that territory and decide its political status. He laid down the axiom at that time that the working of natural economic laws gives to the country purchasing the major exports of another country the most favorable position to supply the latter with its imports and, that this law would in time convert Manchuria into an economic colony or dependency of Japan.

The operation of this natural law cannot be checked by any mere man-made treaties devised to preserve the interests of third parties not directly concerned. That Manchuria would inevitably be linked to Japan either as part of the Empire or as an economic satellite, became inevitable when the Mitsuis sent their first trial shipments of soya beans to Europe and created a new world industry that flooded the country with competitors trying to oust them and take away what they had developed.

In our editorial on "The Solid South Will Pay the Bill," we have commented on the possibilities of the soya bean crop raised in the United States by mechanical methods of cultivation and harvesting. Some idea of the importance of this crop to the future of Manchoukuo and Japan and the efforts being made by Japanese chemists and engineers to widen the uses of the bean, oil and its derivatives for industrial purposes, will be gained from the following brief résumé of progress along these lines.—G.B.R.



Harbin—Longshoremen unloading a shipment of soy beans from a river boat on the Sungari



Mid-winter in Hsinking—Sacks of soy beans piled up at the station ready for transportation southward

the Asahi Electro-Chemical Engineering Company are reported to have developed a process to produce butter, soap, and salad oil from the soya bean oil. The Honen has already commenced tentative production of boiled oil for printing purpose. Unusual interest is being displayed in the soyarex flakes of the Manchurian Soya Bean Engineering Company, as a substitute for wheat flour. The firm has been conducting a wide-spread campaign for advertising the nutritive value of the flakes.

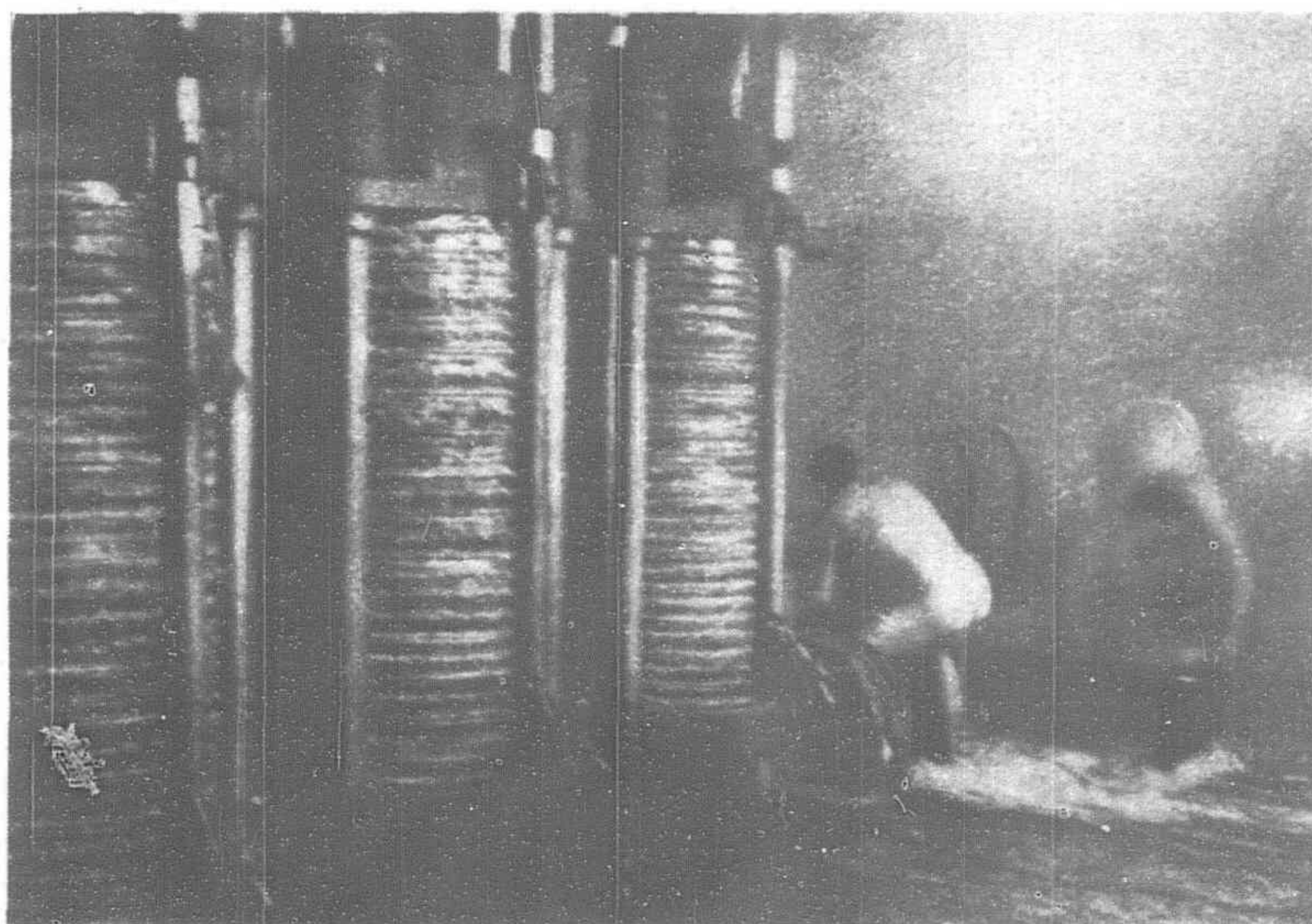
Japanese attempts to utilize the soya bean oil to supplement a lack in natural oil resources have resulted in the development of lubricating oil by the Honen Oil Extracting Company and the Aeronautical Research Institute of the Tokyo Imperial University, and in the production of fuel by the Mitsubishi Heavy Industries and the Automobile School of the Imperial Army.

The Mitsubishi Company announces derivation from soya bean oil of a sort of fuel which may well be compared with heavy petroleum oil when used

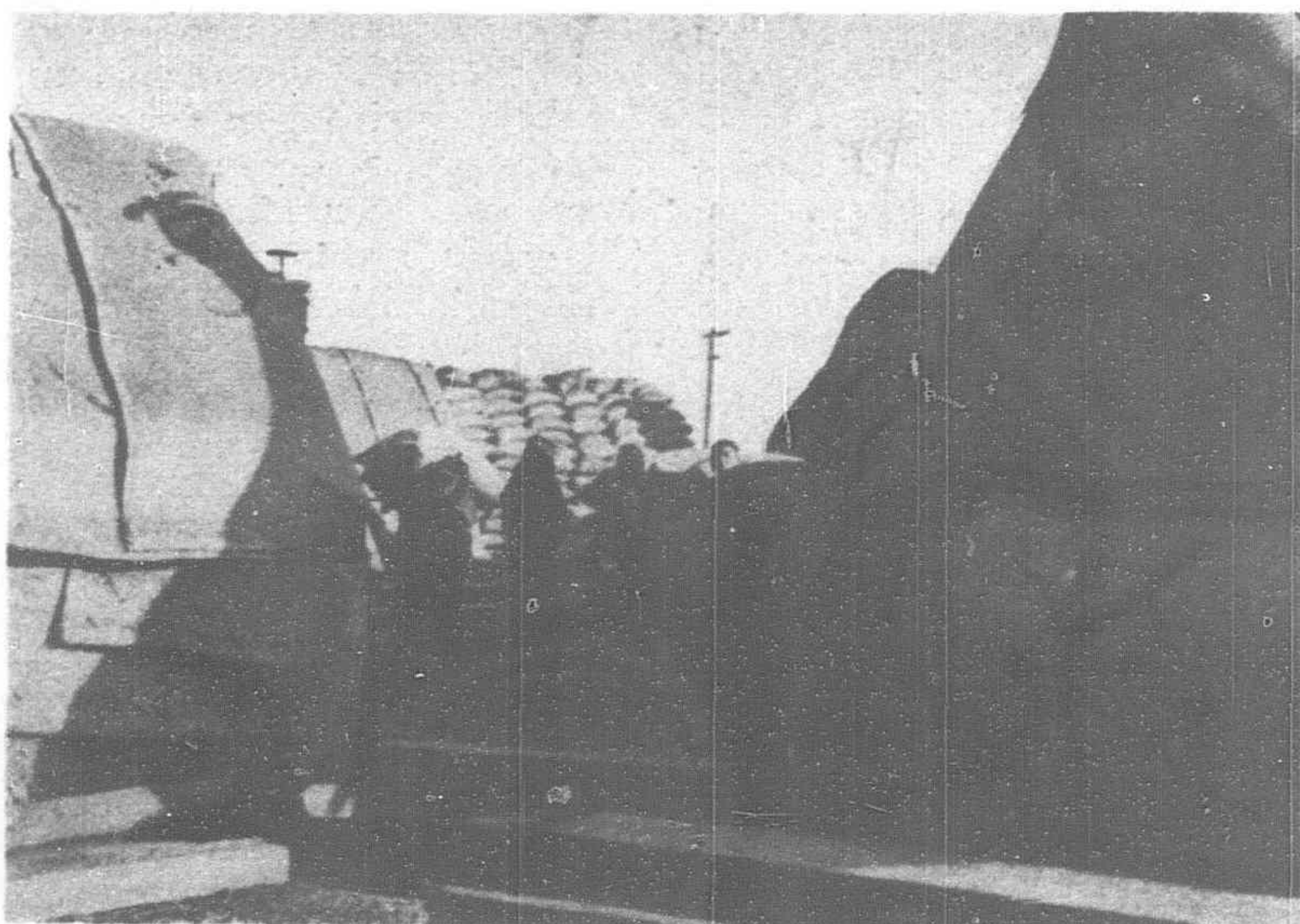
in small diesel engines. The new fuel has already been tested very extensively in the Mitsubishi diesel engine, a four cylinder 45 horse-power unit, fitted to a truck chassis. Reports say that excellent results thus obtained have induced the firm to enter into experimental production of the fuel on a semi-industrial scale, with a factory to be located in Dairen.

The Automobile School of the Imperial Army, at Setagaya, Tokyo, is also reported to have extracted another fuel, which may be used as a substitute for motor gasoline in automobiles. To the fuel is added a certain antioxidant, and it develops a calorific value not much less than that of ordinary motor gasoline. The Army attaches great importance to the fuel because of its availability on a large scale in Manchuria.

The problem of how to obtain lubricant from soya bean oil has long been studied by several institutions and laboratories, including the Central Laboratory of the South Manchuria Railway Company, the Physical and Chemical



Oil-pressing machines in operation at a Manchurian bean oil plant. The pressing chamber is so hot that the workers are obliged to be almost naked



Sacks of soy beans piled up in the yards of Ssupingkai station on the South Manchuria Railway line. Thick straw matting is used to shelter the beans from exposure



Checking the weight of bean cakes at a Dairen oil plant

Research Institute, the Aeronautical Research Institute of the Tokyo Imperial University, the Honen Oil Extracting Company, the Nisshin Oil Engineering Company, and others. The Central Laboratory of the S.M.R. has already published many reports on the theoretical possibility of the proposition, with suggestions as to the basic problems to be solved before the fuel can be prepared on an industrial scale. The Aeronautical Research Institute has also developed its process and final experimentation is under way, though no details have as yet been revealed.

Another process has been developed by the Honen Oil Extracting Company. In this, a certain quantity of castor oil is added to soya bean oil, in order to make the mixture more viscous and free from being gelatinized. The mixture is further supplemented by antioxidants, phenols or amines in most cases. The firm's reports lay special importance on its discovery of two desirable properties in the mixture, the one being its ability to increase the efficiency of antioxidants present in the mixture, and the other the remarkably low deposit of carbon in cylinders when applied to internal combustion engines.

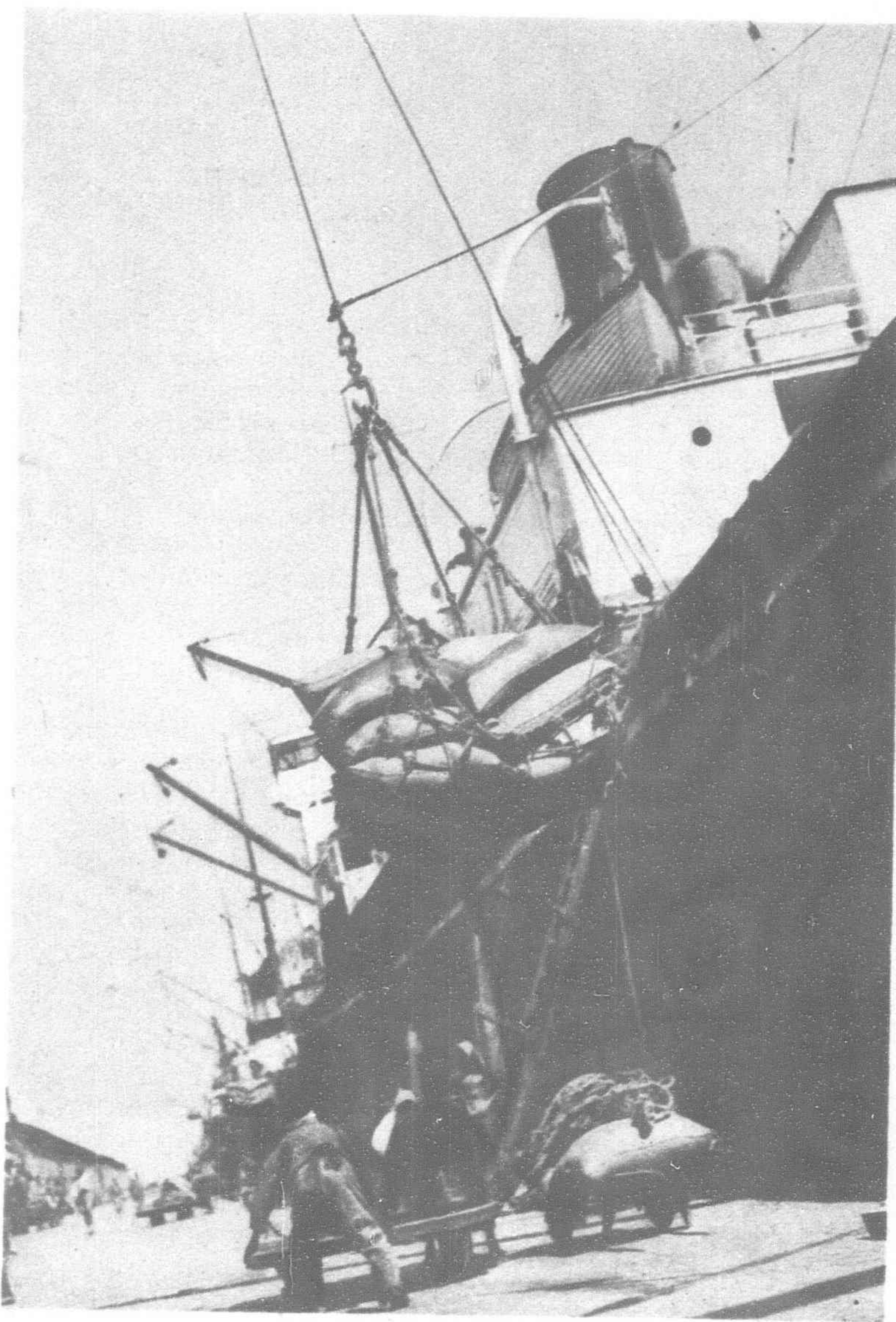
The reports say that soya bean oil containing 10 per cent castor oil, does not gelatinize even though heated to 300

deg. C. for 30 hours continuously, although straight soya bean oil is gelatinized almost completely by the same heat test. The reports reveal that the mixture containing 25 per cent castor oil increases the efficiency of antioxidants by 40 per cent.

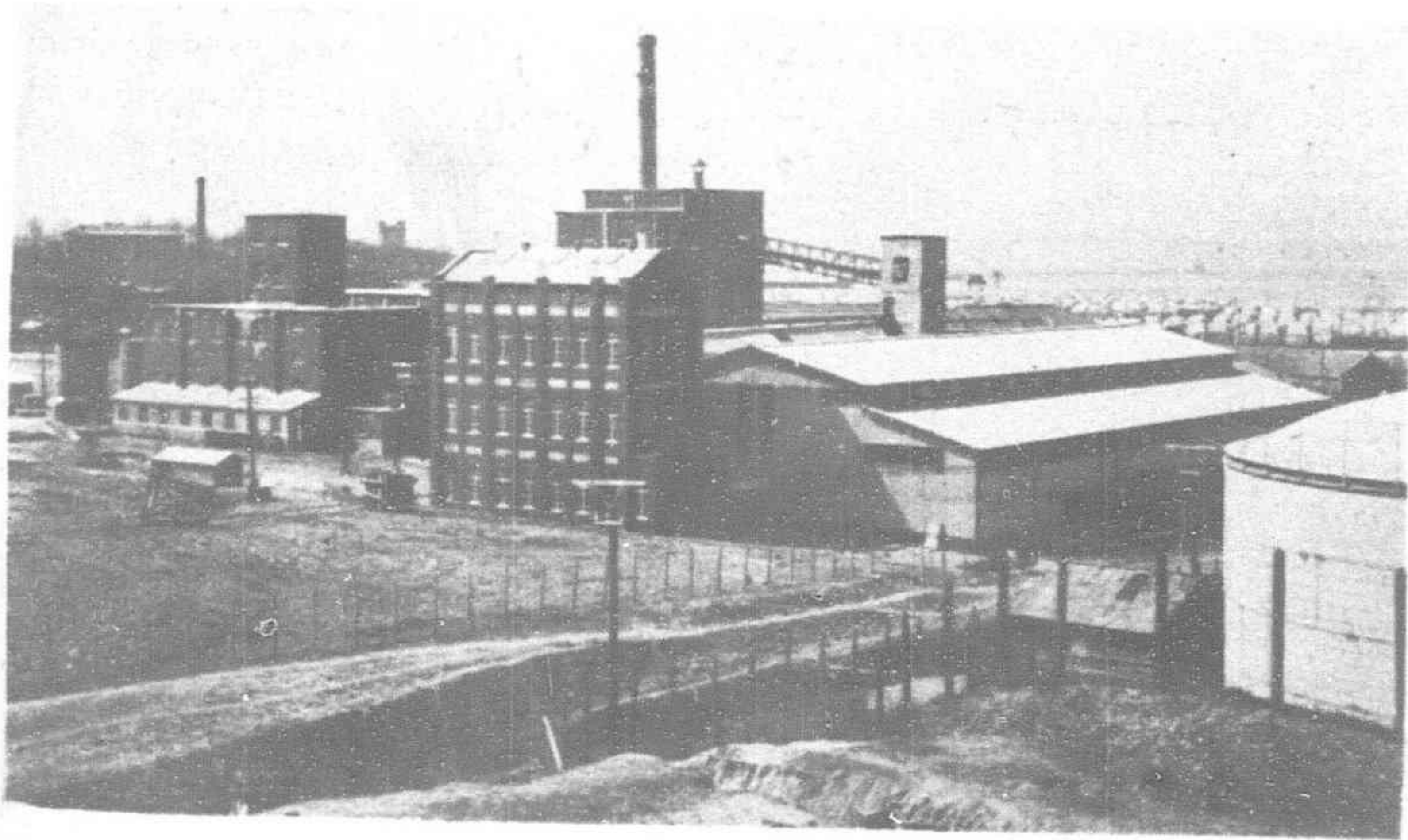
The firm has already prepared several grades of lubricant from the soya bean oil and castor oil. One contains 75 per cent of the former and 25 per cent of the latter, and the mixture is deoxidized by treating in alkaline solution. Then an antioxidant, 0.03 per cent in quantity, is added to it. And the mixture is stirred under a temperature of 80 deg. C. until the ingredients are completely mixed. The lubricant thus prepared has the following principal properties:

	40 deg. C.
Specific gravity	0.9170
Refractive number	1.4677
Specific viscosity	26.3, Oswald
Iodine number	125.6

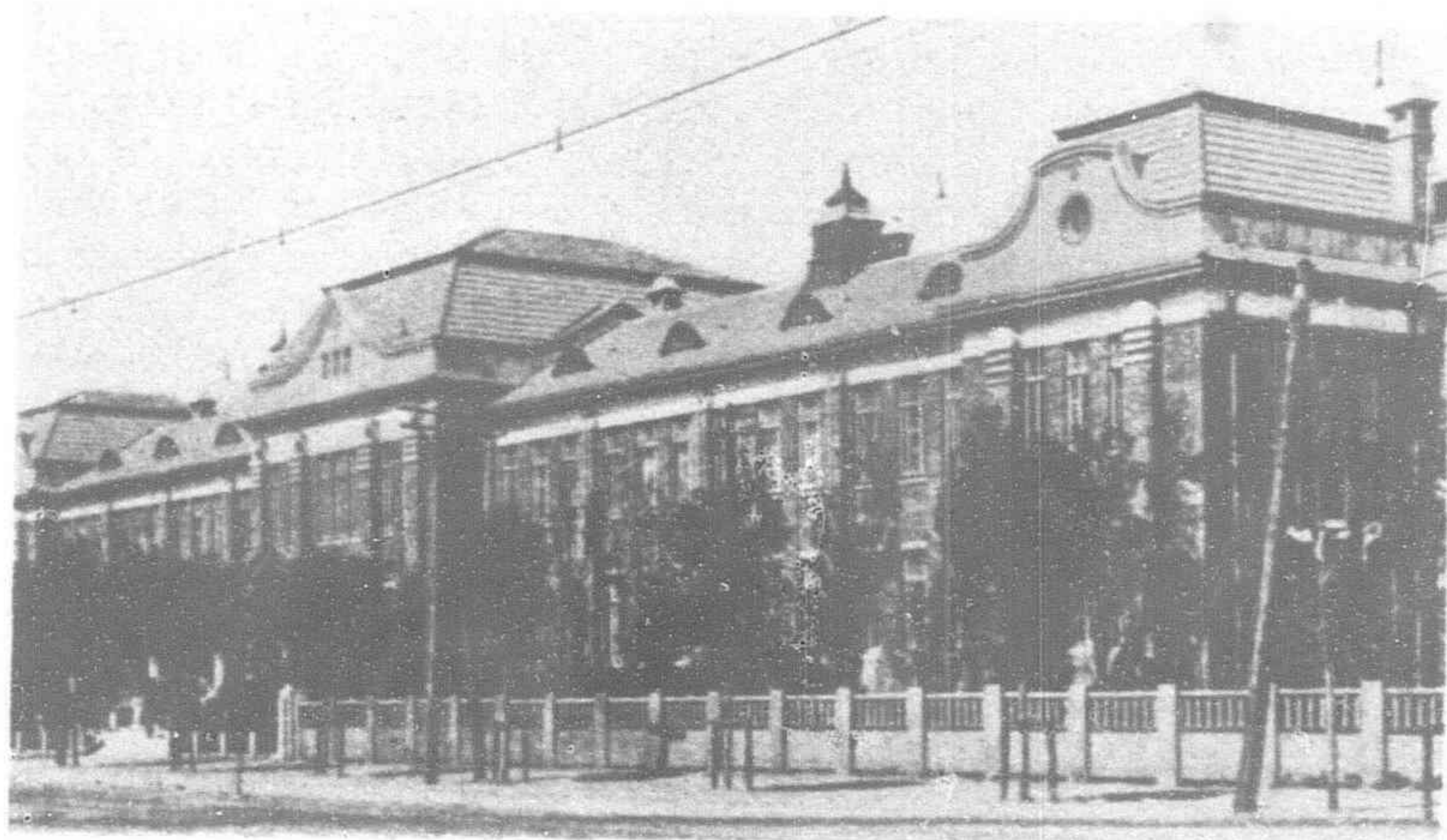
Tests conducted by the firm produced many good results. Heating test at 98 deg. C. for 120 hours continuously, for instance, does not the least affect the specific gravity of the lubricant, and variations in other properties are very negligible, namely, a decrease of 0.0004 in refractive number, 1.8 in viscosity, and 0.9 in iodine number. It seems, therefore, that the lubricant is more stable chemically than castor seed oil, and has many desirable properties as a lubricant.



Beans being loaded aboard an ocean-going freighter at Dairen for shipment abroad



A bean oil mill at Dairen



The Central Laboratory of the South Manchuria Railway Company at Dairen, where many of the products of soya beans originated

SHOWA STEEL WORKS STARTS OPERATIONS

The Showa Steel Works, the first plant of which was completed in April, this year, was to open for full operation on May 6, to turn out approximately 350,000 (kilogram) tons a year, including 77,000 tons of billet, 156,000 tons of sheet bars, 70,000 tons of rails, 33,000 tons of small materials, and 30,000 tons of sheets. Of this total, about 200,000 tons of billet, sheets and bars are to be sold in the domestic market.

Arrangements are already being made as regards the supply in the domestic market, and also on terms of delivery in accordance

with individual buyers, and they are attracting much attention in the market in view of the fact that orders placed with the Showa plant have reached six times the figure proposed to be supplied. The question at issue is what part of his order each buyer will get, and under what arrangements.

It is understood that the foundation work of the second part of the construction program of the Showa Steel Works will be completed before the end of this year, and that Y.6,000,000 needed for financing this enterprise is to be obtained by issuing debentures.

A Possible Solution of China's Transport Problem*

With Particular Reference to North China and the North-West

By J. F. BLACK

No excuse need be offered for the title of this article, for in suggesting a solution of China's transport problem, little is required to prove that such a problem does exist, as it is recognized by everyone, that the first step towards raising the standard of living throughout the Interior is the provision of better and cheaper means of communication than do now exist. Much has been written on this subject by those entitled to speak with authority, and one and all emphasize how much would be gained in every branch of life, by all classes of society, and in all agricultural and industrial undertakings, were better communications available, but, beyond in a general way advocating the construction of more railways and roads, no proposals have been made to show how this object can be attained at a cost commensurate with the present wealth of the country. The expense that would be incurred in constructing railways and roads, of a mileage to have any appreciable effect on the economic level of the country, could only be considered if spread over a great number of years, and the purpose of this article is to show how the same result could probably be obtained in a comparatively short time by the adoption of a form of mechanical road transportation at a relatively insignificant cost.

Road Versus Rail Transport

Up till about ten years ago it was considered that the construction of railroads and still more railroads was the only available means of increasing cheap communication throughout China but since then this opinion has been very considerably modified and many roads have been built and still more planned with a view to adopting mechanical road transportation. At the same time it seems to be generally considered that the construction of a road for motor transport is only the first step towards the building of a railway at some subsequent date and not in itself the solution of the transport problem on any particular route, and many railways have been planned and the routes surveyed with the idea of construction being started as soon as a favorable opportunity offered.

That this attitude towards road construction and road transport is still held by many in China seems to show a lack of appreciation of what is now happening in America and Europe and in other parts of the world in the struggle between railroad and road transport interests, where road transport for medium, and short distances is offering such serious competition to the railways that special legislation has been passed or is now under consideration with the object of curtailing the activities of the companies operating such transport.

Railroads over a period of about a hundred years have proved themselves to be the cheapest form of inland transportation, excepting that on canals and other inland waterways, and until four or five years ago had justly no other rival, but the situation is now very rapidly changing, and it appears probable, owing to the immense progress that is now being made in road transport vehicles, that in a few years time no country can afford to be liberal in building

new railways except for trunk line purposes. Even at the present moment in the United States, Great Britain and other countries branch railways are being shut down as they cannot be operated profitably in competition with road transportation, one of the most recent examples of such a policy being the recommendation of the Rhode Island Commission on Foreign and Domestic Commerce to the United States National Transportation Committee that 2,000 miles of branch lines in New England be turned into roads. In fact it might almost be said that, had road vehicles in their present state of efficiency been in existence one hundred years ago, no railways would ever have been built in England or in other countries of similar size, where no lengthy hauls are required.

It may also be pointed out that there is at present little sign of any great improvement being able to be made in railroad practice, except in such instances as traffic warrants an expensive change over to electric power, whereas road vehicles are being improved upon from day to day and there is so far no indication as to when finality will be reached in the speed, capacity, and economy in operation of such vehicles, and even now in England a road vehicle is being built to carry 250 tons on 60 wheels.

In China it can be claimed that, on the completion of the Canton-Hankow Railway and Lung-Hai Railway to Sianfu, the coastal provinces and those adjacent thereto will be served by an adequate and excellent system of trunk lines, and it perhaps can be considered fortunate that, as feeders to this system, the country is not already saddled with a system of communications that is rapidly becoming obsolete, and is therefore in a position to take full advantage of all the improvements in road transportation that are now being developed.

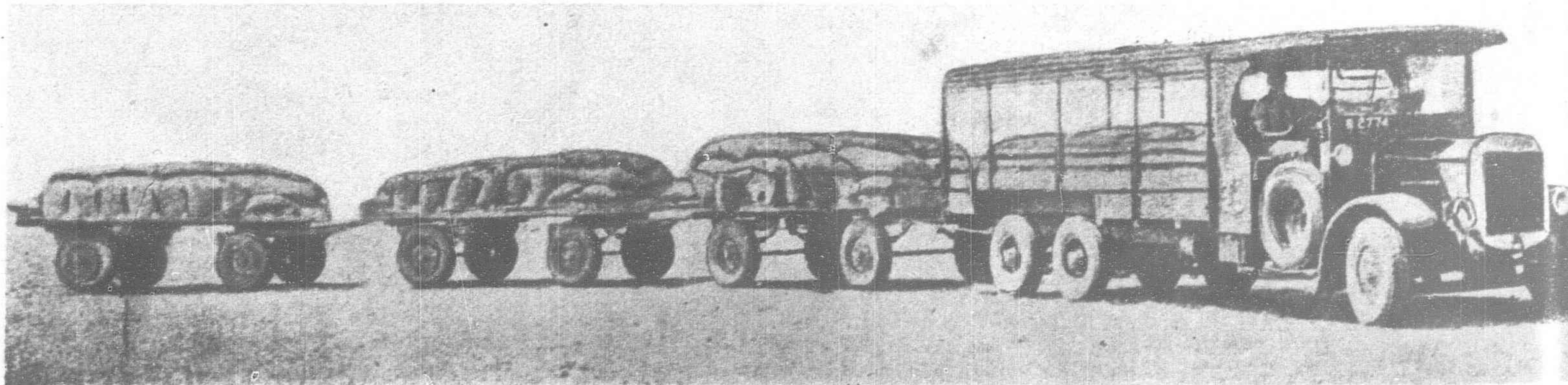
Also in a country such as China, which is practically one hundred per cent agricultural, the greatest proportion of traffic is seasonal, and for such traffic which is only at a maximum for a few months in the year it obviously does not pay to construct even light railways, which entail a large proportion of the initial capital being irrevocably locked up in the cost of construction and permanent way. On the other hand roads, and in particular earth roads, can be constructed and maintained at relatively little cost so that little loss on interest and maintenance charges would be incurred during the off season, when the majority of the transport vehicles could probably be transferred to other routes where more traffic is offering, and even if a certain route had to be abandoned altogether no great loss would be suffered by doing so.

It is now necessary to give an idea of what type of road and of what system of road transport might likely prove suitable to comply with the requirements enumerated above.

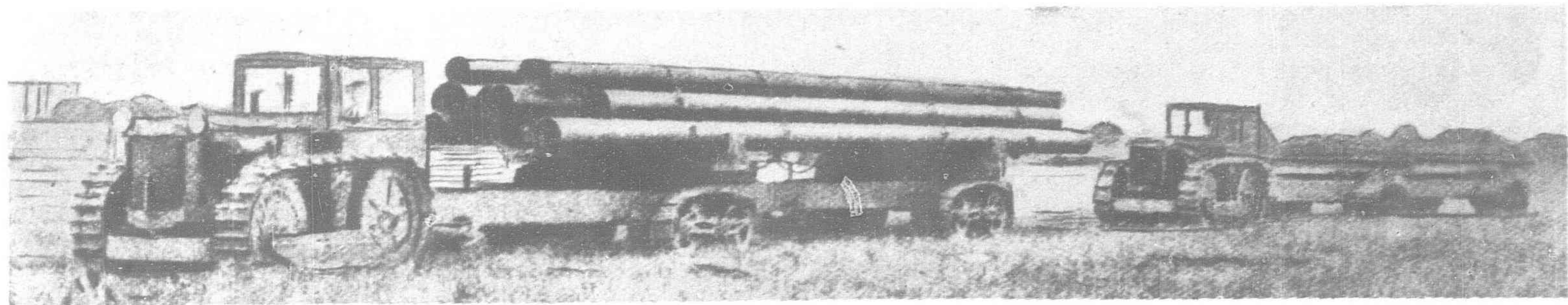
Type of Road

In the first place it may be asked what is meant by a "good road" of which so much is heard. Does this mean a good earth

*Journal of the Association of Chinese and American Engineers.



Transport unit suitable for use on hard roads



Trailers used on the Iraq petroleum field

road costing in level country on a width of 18 feet, from Chinese currency \$400 to \$5,000 per mile; or a waterbound macadam or broken stone road costing \$15,000 to \$60,000 per mile; or a tar macadam road costing up to \$100,000 per mile, or even the more expensive types of roads such as are necessary for carrying the heavy traffic in other countries? There seems to be only one answer to this and that is that, except in the hills and the vicinity of large cities, "good roads" must mean good earth roads as China at the present time cannot afford to build any but the cheapest form of road for general communications throughout the country and must wait to construct the more expensive type of roads, if ever required, until such time as through the agency of the good communications provided by cheap earth roads the general economic level of the country has been raised. In short the only feasible policy would seem to be to construct as large a mileage as possible of the cheapest form of earth road and to adopt a system of transport suitable for such soft surface.

Motor Trucks

With regard to transport vehicles for soft surfaced earth roads it was expected, when such roads were first built in China, that the

motor truck would fulfil all requirements and provide a quick, cheap, and reliable means of communication. Unfortunately this has not proved to be the case and, except for the conveyance of passengers, it cannot be said that motor trucks have come up to expectations, at least as far as supplying a cheap system of transportation, and in many cases, one instance being in the province of Shansi, ricschas are largely supplanting motor trucks for the transport of heavy goods along the motor roads. One reason for this is, of course, the much increased cost of gasoline and of truck chassis during the last few years on account of the depreciation of the silver dollar.

Another reason is that the 1½ to 2 ton truck is too small a unit for economical transportation over greater distances than twenty miles or so, and with operating expenses running at 30 to 40 cents per ton-mile cannot compete against ricschas, carts, and pack animals of various kinds, which can be hired at about half that rate.

Ratio of Load to Distance Travelled

It may be argued that in China there is no other form of land transport offering but that of a light truck as an intermediary means of communication between carts carrying a ton or a little

Side View of Trailer
Top View of Trailer
Perspective View of Trailer

SPECIFICATION

Weight of Tractor about 25 tons	Type of Road
Load Capacity of each Trailer 25 tons	Grade of Road
Tractor with 300-400 h.p. Diesel Engine	Grade of Road
Trailers to carry 25 tons each	Grade of Road

PROPOSED 100-TON ROADLESS TRAIN FOR ROADLESS COUNTRIES
Tractor with 300-400 h.p Diesel Engine
Trailers to carry 25 tons each



PROPOSED INITIAL 25-TON ROAD TRAIN FOR CHINA
Tractor with 100-110 h.p. Steam Engine
Trailers to carry 5 tons each

over and going 20 miles a day and the railway train carrying 200 to 300 tons and running 300 miles in the 24 hours. This is correct, as nothing heavier than a 2-ton truck on four tyres can be run on the earth roads in China without causing disintegration of the surface, but furthermore a similar gap in transport, though of slightly smaller extent, exists all over the world, and the purpose of this article is to show how in China at least this gap can be filled by a cheap system of transportation.

It is an acknowledged fact that the longer the haul and the heavier the load moved at one time the cheaper are the costs per ton-mile, as for instance in the long railroad hauls across the American Continent, but it is difficult to formulate a definite rule governing this relationship. Something has been done in the United States towards investigating the subject where, in the State of Connecticut, observations for a whole year were taken on all vehicles using a certain route, when it was found that the economic radius of vehicles carrying up to a ton load was in practice between 12 and 17 miles, that of vehicles carrying from one to three tons between 18 and 34 miles, and that of vehicles up to seven tons capacity between 35 and 64 miles. This is some guide as to the maximum mileage at which motor trucks of various capacities can be economically run, though it is no criterion of the minimum mileage over which transport units of ten, twenty, or more tons capacity can be economically operated as there were no vehicles of this size under observation, but in any case it goes to prove that the longer the distance the heavier should be the load transported at one time.

Wheel Pressure

As pointed out above a two ton truck is about the largest four-wheeled truck that can be run in China without destroying the earth roads and it will now be endeavored to ascertain what is the maximum wheel load or load per square inch that can be applied to an earth road without causing disintegration. Published statistics on this subject are scarce, but some years ago the United States Department of Agriculture made exhaustive tests on the damage caused to earth roads by steel tyred horse drawn vehicles, which give some assistance in the matter. As a result of some forty identical tests it was then proved that, in order to do least damage to the road and to reduce rolling friction, that is, the resistance offered by the road to the wheels, to a minimum, the load imposed on the road should not be more than 250 lb. per linear inch of tyre width, that is to say a wheel with a 5-in. wide tyre should not carry a heavier load than 1,250 lb. While the damage caused to a road by a fast revolving high pressure pneumatic tyre is much greater than that caused by a slowly revolving steel tyre of large diameter, such as was used in these tests, this figure is some guide as to what load can be carried on high pressure pneumatic tyres without damaging the road, and it will be seen that a 32-in. by 6-in. tyre, such as is commonly used on 1½ ton trucks, and rated to carry 2,200 lb. when inflated to 90 lb. pressure, shows on a 5-in. wide tread a load of 440 lb. per linear inch which is much too high. Owing to the resilience of the tyre the load per linear inch will be somewhat less than this but in any case it is too high. The most competent authorities now hold that in order to preserve the surface of earth roads the tyre pressure should not be in excess of 20 lb. per square inch and this requirement is now beginning to be met by the production of extra low pressure tyres by an ever increasing number of tyre manufacturers.

Fortunately China, at least in the North and North-west, is favored with a soil that will carry a considerably higher pressure, as the loess, which predominates in these areas, will carry when dry a load of about 30 lb. to the square inch.

Rolling Resistance

Besides the actual destruction to the road surface by too heavy wheel loads another factor detrimental to economical transportation has to be considered and that is the enormously increased rolling friction and corresponding increase of power required to overcome



Transport unit for use on hard roads

it, caused by the formation of ruts and/or loose sand and earth on the surface, as can be readily realized by anyone who has driven a car on a road covered with even half an inch of sand.

This rolling friction is measured in pounds of pull or tractive effort required to move one ton, and from tests made in various countries the rolling friction developed on different types of road surfaces is as under. For sake of comparison that on rails is also given.

		Rolling Friction Per ton of 2,000 lb.	
First Class Railroads		3—10	lb.
Light Railways, track not of the best		20—40	"
Asphalt Roads	Pneumatic Tyres	30—70	"
Macadam Roads	" "	30—100	"
Earth Roads, dry	" "	30—200	"
" " U.S. Dept. Agric.	250 lb. per in. steel tyres	65	"
" " " "	550 " " " " "	80	"
" " " "	850 " " " " "	95	"
Sand Roads	Pneumatic Tyres	100—200	"
Loose Gravel	" "	150—200	"
Blown Sand, 8-in. deep, wet	" "	300	"
" " " " dry	" "	500	"

The above clearly shows the very great necessity of maintaining a good surface on roads if economical transportation is desired. It also shows that a good earth road offers no more resistance to tractive effort than does a good macadam or asphalt road, provided always that the surface is maintained and no sinkage of the wheels is incurred, which can only be obtained by employing sufficiently light wheel loads on the transport vehicles.

Tractor and Trailers

It has now to be discovered what type of vehicles will comply with these two seemingly contradictory requirements for cheap transportation on earth roads, one being that the transport unit should be of as large a capacity as possible and the other that the wheels should not impose on the road a greater load than 30 lb. to the square inch or about half a ton on a 6-in. tyre. The solution might be found in equipping each self propelling vehicle with a number of wheels, such as putting eight wheels on a two ton truck but this would be costly and the transport unit is still small and there seems a better way out of the difficulty.

This is, at least as regards the provision of a transport unit of large capacity, in the development of the tractor and trailer form of transport, which is now being recognized as supplying the cheapest form of road haulage. The development of this system has been hindered by the regulations governing road transportation in most countries, such as those now in force in the United States which limit the overall length of a tractor and trailer to 45 feet, and in Great Britain to 34 feet, but within the last few years some progress has been made in Germany, Holland, and other countries towards perfecting transport by means of a tractor hauling two, three, or more trailers, in other words in perfecting the "Road Train."

The accompanying illustrations show what is now being done in other countries in the way of one transport unit carrying loads of 20 to 25 tons on hard roads. As will be noted, these vehicles are all equipped with high or medium pressure tyres which are perfectly suitable for constant traffic on hard surfaced roads or for occasional use on soft roads, but they could not be employed continuously on the latter, as the heavy loads per square inch of road surface imposed by the wheels, and in particular by the driving wheels of the tractor, would soon cut them to pieces.

Caterpillar or Endless Tracks

The problem has now narrowed down to the provision of some form of tractor of sufficient power to haul on the level a pretty considerable load, say 30 to 50 tons payload, which involves a gross load of 50 to 80 tons, without imposing on the road surface a greater load than 30 lb. to the square inch, or less if possible.

To haul 80 tons requires a tractive effort or draw bar pull of 5,600 lb., if rolling friction is estimated 70 lb. per ton hauled, and to obtain the necessary adhesion to effect this and at the same time limit the load on the road to 30 lb. per square inch makes the employment of wheels bearing directly on the road surface almost impossible and another method of transferring this load has to be sought. This can be accomplished by adopting caterpillar or endless tracks for the tractor, by which in operation a track of large area is laid down in front of the wheels and is picked up again behind them as soon as they have run over that portion in contact with the road. This method besides distributing the tractor load over a large area, which in the case of agricultural tractors reduces the pressure to 6 lb. per square inch or less, has another marked advantage over wheels in the matter of non-destruction of the surface in that the load acts on the ground through tracks which have already been placed on it and are not moving relatively to it, and not through rapidly revolving wheels which, as they move over the ground in small jumps, produce an abrasive action similar to that of an emery wheel.

There are many types of endless tracks on the market built up of steel plates connected together by pins, but owing to the excessive wear caused in the joints by mud and sand they are only suitable for use on agricultural tractors running at a speed of six miles per hour at most when there is little wear, or for military tractors and tanks, which run at a speed of 20 to 30 m.p.h., but for which economy in operation is a matter of little consideration, but are scarcely suitable for road transport purposes at intermediate speeds where economy in operation is of first importance.

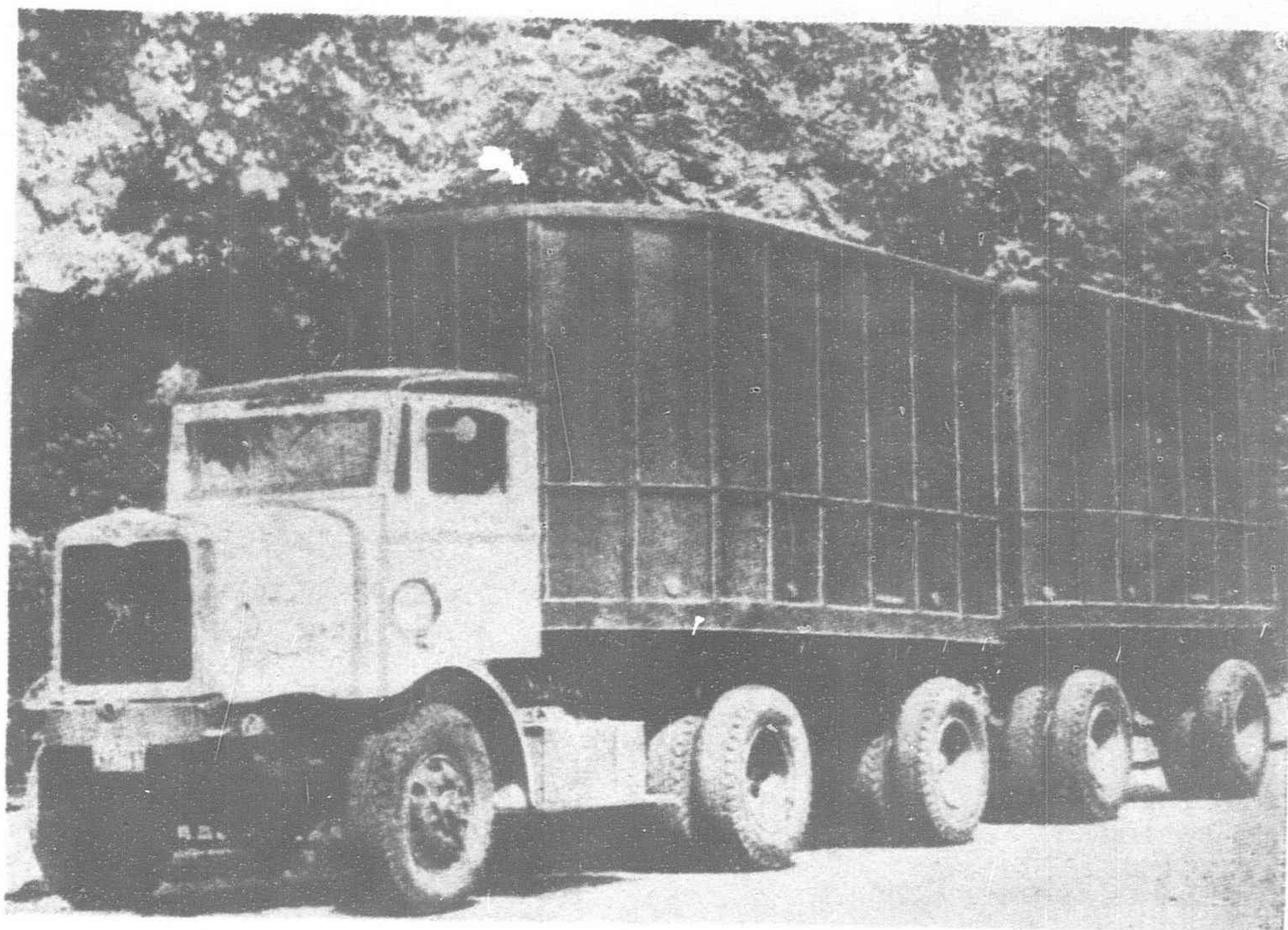
Roadless Tracks

There is, however, one endless track, which has been in production for about three years now and which seems to meet all the requirements of road transport in China, and that is the track manufactured by Messrs. Roadless Traction Ltd., England, in which blocks of hard rubber are used, instead of pins to form the joints between the steel track plates.

This track has been put through the most exhaustive tests in the laboratory and in the field and it has been proved that the rubber in the joints is practically indestructible and seemingly will last as long as the cast steel plates. As a result many of the leading agricultural tractor manufacturers are considering its adoption and the Fordson, Case, and Massey-Harris tractors in America and others in Great Britain and Europe have already been equipped with it. This track, which can be run, if required, up to speeds of 25 or 30 m.p.h. and is practically indestructible, therefore seems to offer a type of tractor wheel that would roll down and improve instead of damaging the soft earth roads of China. Now it remains to discuss the type of tractor to which it would be best to have it applied.

Trailer Wheels

Before going further it would be as well to refer to the type of wheels required for the trailers or wagons of such a road train, but



Vehicles equipped with pressure tyres for use on hard roads

this is a matter which presents little difficulty, as, depending on the loads and speeds of the transport unit, the trailers could be equipped with low pressure pneumatic tyres, wide steel tyres, or endless tracks similar to those shown which illustrates four tracks carrying a load of 20 tons on a trailer supplied for use on the Iraq petroleum field.

In order to obtain economic operation, next in importance to non-destruction of the roads and reduction of rolling resistance, comes the question of what fuel is to be adopted for running the tractor at least cost, and in gasoline, kerosene, fuel oil, charcoal, and coal there is a wide range of possible fuels.

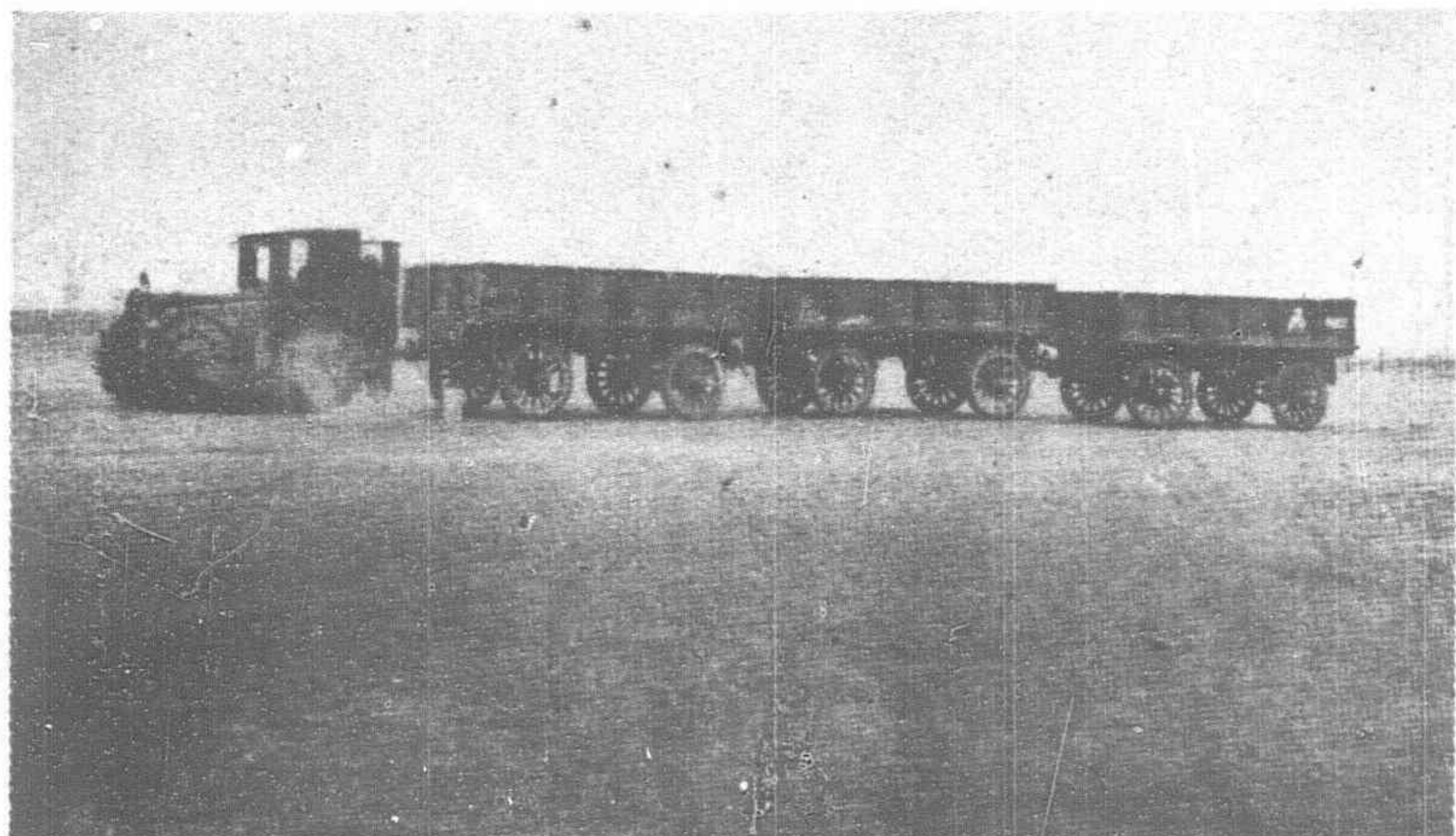
As long as gasoline and kerosene have to be imported and exchange remains at about its present level these cannot be counted economical fuels and a cheaper substitute has to be sought. One of these is furnished by Diesel or fuel oil, which at the ports can be purchased at about a third of the price of gasoline, and in their vicinity offers a cheap form of power when used in a compression ignition engine, but the price rises rapidly as the distance from the coast and railways increases. It might be thought that the crude petroleum found in certain parts of China could be used instead of these imported fuel oils, but this is scarcely possible, at least at present, as the fuel pump used on this type of engine can only be worked with oil of low viscosity which rules out most crude oils. At the same time there is the possibility of using crude oil in a gasoline engine through the agency of one of the many carburettors, now being put on the market, which are designed to pre-heat and vaporize such oils.

Gasoline engines are now being successfully run in Hunan on producer gas made from charcoal and this now forms a cheap source of power in such localities as timber is found, but, except in the forest districts, the cutting down of trees to provide charcoal is not likely to be looked upon with approval, and the price of charcoal will advance as the supply decreases.

Coal seems to offer the most suitable fuel for use in this form of road transportation, as it is cheap, costing in many localities from \$1.00 to \$3.00 per ton at the pit-head, is widely distributed, and the supply is almost inexhaustible, the coal reserve of China being estimated at 217,000 million tons, but so far little has been done in the way of using coal as a fuel for road transport vehicles in China.

Steam Driven Vehicles

One reason for this is that since the advent of cheap gasoline little attention has been given to the perfection of steam road vehicles except in Great Britain, and another is that such vehicles are too heavy for service on earth roads, as about the smallest size manufactured has a payload of six tons and an unladen weight of about the same amount, thus giving a load of about three tons on each wheel. Of late years these vehicles have become highly



Showing a roadless tractor with three trailers

efficient and now a six ton waggon equipped with pneumatic tyres, has an acceleration almost equal to that of a gasoline driven truck, a speed up to 50 m.p.h., and on tests a consumption of $3\frac{1}{2}$ lb. of coal per mile, or 640 miles to the ton (2,240 lb.) has been obtained. The largest size made carries 15 tons on eight wheels and on test has shown a coal consumption of 280 miles to the ton. These vehicles are equipped with engines of about 100 b.h.p. and assuming speeds respectively of 20 and 15 m.p.h. show a coal consumption of about 1 lb. of coal per h.p. hour.

Taking coal at the high average price of \$11 per metric ton, or one half cent per pound, steam thus seems to offer the cheapest form of power for road transportation in China, and as the weight of the tractor will be carried by endless tracks the total weight on the road surface should not be more than 10 lb. per square inch.

Road Trains

Though this form of road transportation has been designed for use in other countries for units of 100 tons and more, as illustrated in the drawings no such road train has as yet been put into operation, but at the same time it can be said that no other country offers the same incentive and facilities for the inauguration of such a system as does China, with its vast population, its almost unlimited supply of cheap coal, and a soil that in itself forms an excellent road surface as long as not too heavily loaded.

Designs have been prepared for tractors and trailers to operate in units of 25 and 50 tons at speeds respectively of 10 and five miles per hour and from these it is possible to obtain an idea of the approximate cost of operation, which is as under. It will be noted in these figures that besides taking the price of coal at \$11 per ton, the consumption has been taken at the liberal figure of $2\frac{1}{2}$ lb. of coal per h.p. hour instead of 1 lb., as mentioned above, and that Rolling Resistance has been assumed at the fairly high figure of 70 lb. per ton.

ROAD TRAIN HAULING 25 TONS AT SPEED OF 10 MILES PER HOUR

Vehicles

1 Tractor equipped with 110 b.h.p. engine giving 75 Drawbar h.p. Cost, say	..	..	..	..	..	\$30,000
5 Trailers each 5 ton capacity Cost, say	..	..	..	..	..	15,000
Total Cost	..	..	..	..	..	\$45,000

Haulage Capacity at speed of 10 m.p.h. = 880 feet per minute.

$$\text{Drawbar Pull} = \frac{75 \times 33,000}{880} = 2,812 \text{ lb.}$$

$$\begin{aligned} \text{Will Haul} & \quad 2,812 \text{ tons} \\ & = \frac{70}{40.2} \text{ tons} \quad \left\{ \begin{array}{l} \text{With Rolling Friction taken at 70 lb.} \\ \text{per ton hauled} \end{array} \right. \\ & = \left\{ \begin{array}{l} 25 \text{ tons payload} \\ 15 \text{ tons = tare of five 5 ton trailers} \end{array} \right. \end{aligned}$$

Operating Costs

Load	..	25 tons
Speed	..	10 miles per hour
Mileage	..	400 miles a week and 40 weeks a year = 16,000 miles a year

Depreciation

Based on a total life of 100,000 miles which is a conservative estimate since the life of a motor truck is usually taken at 150,000 miles. On total cost of \$45,000

Per Train-Mile 45 cents

Interest on Capital

Per annum 6% on \$45,000 = \$2,700.00
 „ week = \$67.50

Per Train-Mile running 400 miles a week 16.88 cents

Wages

1 man at \$60.00 per month	..	..	\$60.00
1 „ „ \$40.00 „ „	..	..	40.00
2 men „ \$30.00 „ „	..	..	60.00

Total Wages per month .. \$160.00
 „ „ „ week .. \$ 40.00

Per Train-Mile 10 cents

Fuel

On assumption that coal consumption will be at rate of 2.5 lb. per h.p. hour

110 b.h.p. engine uses 275 lb. an hour

Costing at $\frac{1}{2}$ cent per lb. 137.5 cents an hour

Per Train-Mile at speed of 10 m.p.h. 13.75 cents

Lubricating Oil

On assumption that engine of tractor uses 50 cents

of oil per hour = per mile 5 cents

and oiling of wheels, etc., of tractor and trailers

costs 1 cent per vehicle per mile 6 cents

Total per Train-Mile 11 cents

Maintenance

Allowing \$4,800 per annum for maintenance of engine =

per mile 30 cents

and for other parts of tractor and trailers \$3,200

„ „ 20 cents

Total per Train-Mile 50 cents

SUMMARY 25 Ton Train at 10 m.p.h.

Depreciation	..	..	45 cents
Interest	..	..	16.86 cents
Wages	..	..	10 cents
Fuel	..	..	13.75 cents
Oil	..	..	11 cents
Maintenance	..	..	50 cents

Total per Train-Mile .. 146.61 cents

Cost per Ton-Mile 5.86 cents

ROAD TRAIN HAULING 50 TONS AT SPEED OF FIVE MILES PER HOUR

Vehicles

1 Tractor equipped with 110 b.h.p. engine giving 75 Drawbar h.p. Cost say	..	..	\$30,000
5 Trailers each of 10 ton capacity Cost, say	..	..	30,000
Total Cost	..	..	\$60,000

Haulage Capacity at speed of 5 m.p.h. = 440 feet per minute

$$\text{Drawbar Pull} = \frac{75 \times 33,000}{440} = 5,625 \text{ lb.}$$

$$\begin{aligned} \text{With Haul} & \quad \frac{5,625}{70} \text{ tons} \\ & = 80.4 \text{ tons} \quad \left\{ \begin{array}{l} \text{With Rolling Friction taken} \\ \text{at 70 lb. per ton hauled} \end{array} \right. \\ & = \left\{ \begin{array}{l} 50 \text{ tons payload} \\ 30 \text{ tons tare of five 10 ton trailers} \end{array} \right. \end{aligned}$$

Operating Costs

Load	..	..	50 tons
Speed	..	..	5 miles per hour
Mileage	..	..	250 miles a week and 40 weeks a year = 10,000 miles a year

Depreciation on total life of 100,000 miles Per Train-Mile .. 60 cents

Interest 6% per annum on \$60,000 Per Train-Mile .. 36 cents

Wages Same as 25 ton-train \$40 per week Per Train-Mile 16 cents

Fuel Same as 25 ton train 137.5 cents per hour Per Train-Mile at 5 m.p.h. 27.5 cents

Lubricating Oil

On assumption that engine of tractor uses 50

cents of oil per hour = per mile 10 cents

and wheels, etc., of tractor and trailers running

at half speed but double the load of 25 ton

train cost one cent per vehicle per mile .. 6 cents

Total per Train-Mile 16 cents

Maintenance

Allowing \$4,800 per annum for maintenance of engine, etc. = per mile 48 cents

and for other parts of tractor and trailers

\$3,200 per annum = „ „ 32 cents

Total per Train-Mile 80 cents

Total Operating Costs per Train-Mile 235.5 cents

Cost per Ton-Mile 4.7 cents

Speed of Road Transport

It will be noted that these ton-mile rates of 4.7 and 5.86 cents are estimated when running the transport units at the comparatively slow speeds of 5 and 10 miles per hour and this question of speed and its effect on the cost of transport is a matter that requires some consideration, as it is one on which some diversity of opinion exists.

In the first place it is obvious that, as regards the conveyance of passengers, perishable goods, and goods of high intrinsic value, the time element must be considered irrespective of cost, and for such purposes the tractor should be run at a speed of 10 to 15 miles per hour, when it should be able to haul 10 to 12 tons, or a corresponding number of passengers, say 100 to 120. For the present it seems unnecessary to aim at a higher speed than this throughout the interior of China.

The carriage of heavy and bulk goods, such as crops, coal, etc., is quite another matter, and it is doubtful if the time element has, within reasonable limits, any bearing on the question at all, as the important points for consideration are economy in operation and non-destruction of the roads.

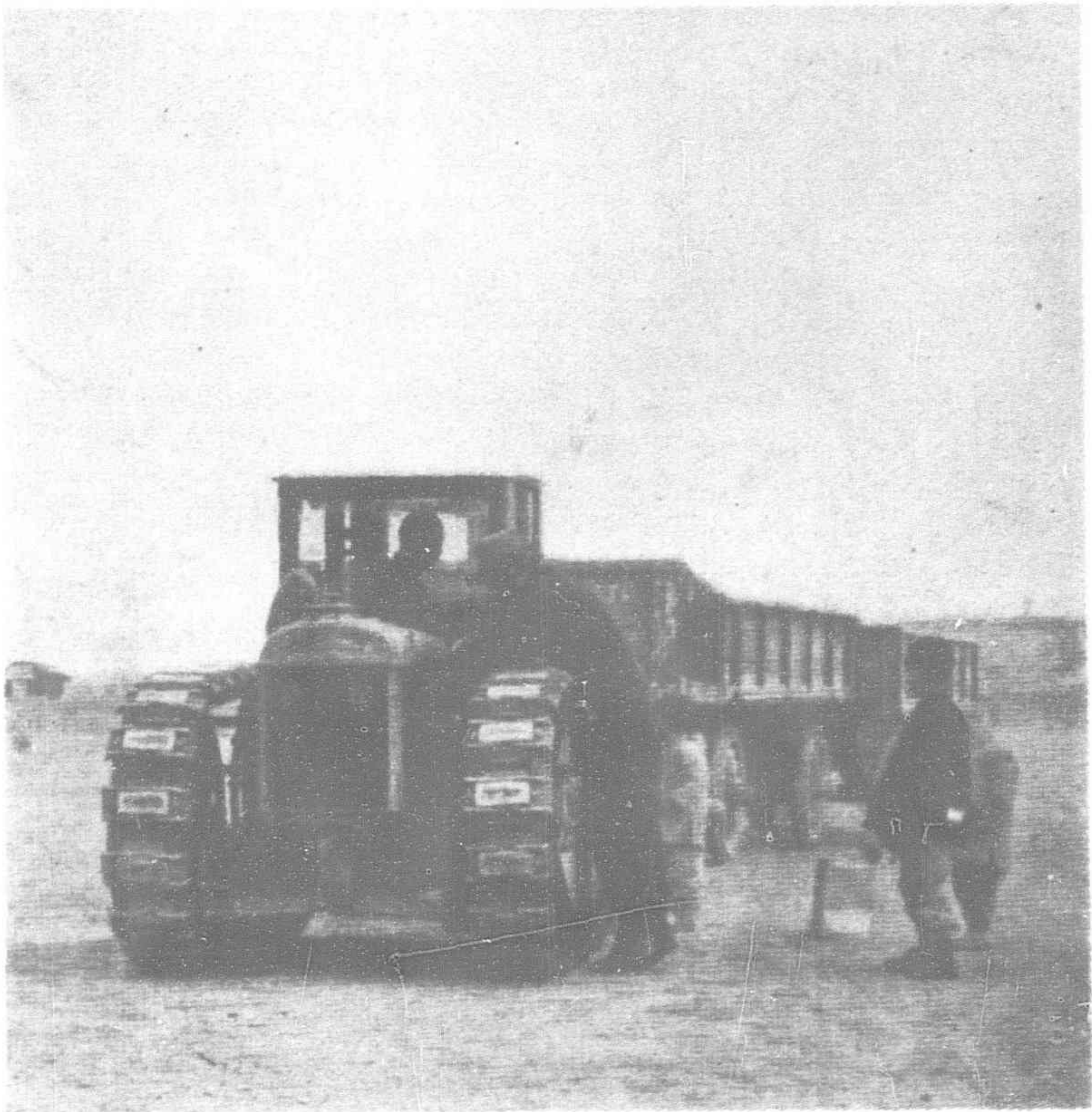
It is held by some that, if a vehicle carrying a certain weight of goods covers a certain distance at a speed of 10 miles an hour, the cost of transport will be halved if the same goods can be carried over the same distance at a speed of 20 miles an hour. This is correct in so far as wages and other charges, which are reckoned by the year or month are concerned, but does not take into account that to double the speed without decreasing the load, entails at least doubling the power of the vehicle, thus much increasing the first cost, and interest and depreciation thereon, doubles the fuel, oil, and maintenance charges, and more than doubles the wear on the road.

As an example it might be considered what it would cost to run the 25 ton train at a speed of 20 m.p.h. instead of 10 m.p.h. which would necessitate the tractor being equipped with at least a 220 b.h.p. engine, costing about \$50,000 instead of \$30,000.

This estimate is as under :—
Operating Costs at 20 m.p.h.

Load	..	..	25 tons	
Speed	..	..	20 miles per hour	
Mileage	..	..	800 miles a week and 40 weeks a year=32,000 miles a year	
Depreciation	on cost of \$65,000 and 100,000 miles life	..	65	cents
Interest	at 6% per annum on \$65,000= \$97.50 per week	..	12.20	cents
Wages	at \$40 per week and 800 miles a week	..	5	cents
Fuel	at 275 cents an hour and 20 miles an hour	..	13.75	cents
Oil	at 220 cents an hour	..	11	cents
Maintenance	at \$16,000 per annum	..	50	cents
Total Operating Cost per Train-Mile	..	..	156.95	cents
Cost per Ton-Mile	..	..	6.3	cents

This cost per ton-mile is rather more than that of 5.86 cents shown for running at 10 miles per hour, and it really turns on the question of how depreciation is to be calculated. In the first place if a life of 100,000 miles is allowed for a unit running at 10 miles per hour, the life mileage allowed for running at double that speed should certainly be less and the rate charged per mile more than the 65 cents above. On the other hand if depreciation is calculated at 20 per cent per annum on first cost, as is often done the depreciation charge on the 20 mile an hour unit would be reduced to 40.6 cents per train-mile, and the estimated life would be five years at 32,000 miles a year, or in all 160,000 miles. On the same basis the 10 mile an hour unit would have to be charged 56.25 cents per train-mile instead of 45 cents and the first cost would all be written



Another view of a roadless tractor with trailers

off by the time the unit had run only 80,000 miles. On the whole the most reasonable scheme seems to be to fix the total life of transport vehicles at a definite mileage, and taking this at 100,000 miles as above, there is little difference in the cost per ton-mile between running at 10 and 20 miles per hour. The one advantage in the faster transport is the saving in time, which is of little account in carrying crops, coal, and similar commodities to a market or railhead, but against this must be placed the very considerable increase in first cost and the much greater wear on the roads.

If the question of time is of importance on occasions the best solution would be to run the 10 mile an hour unit both day and night, which can easily be done at little extra cost for lighting, as by doing so there would be the same saving in time without increase in first cost, the additional wear on the roads would be less, and the

rate per ton mile would be cheaper, as shown hereunder.

Operating Costs Running Night and Day

Load	..	..	25 tons	
Speed	..	..	10 miles per hour	
Mileage	..	..	800 miles a week and 40 weeks a year=32,000 miles a year	
Depreciation	on cost \$45,000 and 100,000 miles life	..	45	cents
Interest	at 6% per annum of \$45,000= \$67.50 per week	..	8.43	cents
Wages	at \$80 per week and 800 miles a week	..	10	cents
Fuel	at 137.5 cents an hour and 10 miles an hour	..	13.75	cents
Oil	at 110 cents an hour and 10 miles an hour	..	11	cents
Maintenance	at \$16,000 per annum	..	50	cents
Total Operating Costs per Train-Mile	..	..	138.18	cents
Cost per Ton-Mile	..	..	5.5	cents

It cannot be said that the above figures are entirely theoretical as towards the end of last year trials were made in the neighborhood of Peiping with a Roadless Tractor hauling 12 tons in three trailers, as shown in the accompanying illustrations. The tractor was equipped with a fuel oil carburettor and used Solar Oil, costing 38 cents a gallon. A series of tests were made and the fuel consumption when running at a speed of about 6 m.p.h. was found to be as follows :—

Hauling	4 tons in one trailer	.5 gals. per mile costing	19 cents
"	8 " two "	.55 " " "	21 "
"	12 " three "	.62 " " "	23.5 "

The first cost of this transport unit was \$18,000 and on the assumption of running 40 weeks in the year and 300 miles a week the operating costs are as follows :—

Depreciation	on total mileage of 100,000 miles	..	18	cents
Interest	at 6 per cent per annum on \$18,000	..	9	cents
Wages	at \$20 per week	..	6.6	cents
Fuel	as above	..	23.5	cents
Oil	..	..	5	cents
Maintenance	..	..	10	cents
Total Operating Costs per Train-Mile	..	..	72.1	cents
Cost per Ton-mile	..	..	6	cents

Road Transport Rates

It will be noted that this cost of six cents per ton-mile is practically the same as that estimated for the larger steam driven units, which is due to the fact that the latter, at least as regards fuel consumption, is actual cost, whereas the former are only estimates which probably err on the side of too large allowances being made for consumption and price of coal, depreciation, maintenance, and other charges.

Even including these allowances the cost per ton-mile for wages, fuel, lubricating oil, and maintenance works out at an average of a little over three cents, and six cents per ton-mile could be accepted as a safe overall operating cost. This operating cost of six cents per ton-mile is not very far removed from that of the trunk railways, which operate at about a rate of one cent per metric ton-mile, and the rates to be charged could be fixed at a considerably higher figure, say 10 cents per ton-mile, at which rate, even if the road train worked only five months in the year, sufficient surplus would be earned to meet all administrative expenses and road upkeep, in addition to a substantial profit.

This rate of 10 cents per ton-mile is one that could readily be charged as it compares not unfavorably with railway rates and is considerably less than other transport rates in North China, excepting those on waterways, as the figures hereunder show.

Railway Rates Per metric ton (not car load rates which are about 25 per cent cheaper) on Class IV goods comprising iron, steel, baled cotton, flour, grain, timber, etc., as fixed by Through Goods Tariff Conference 1922 though now augmented by additional taxation

Tientsin-Pukow Railway	3.5 cents per metric ton-mile
Peiping-Liaoning	5.9 " "
Peiping-Hankow	7.6 " "
Cheng-Tai	8.8 " "
Peiping-Suiyuan	9.6 " "
River Transport	3.5—6 cents per ton-mile
Carts, Rock Animals, etc.	15—30 " "
Motor Trucks	35—45 " "

In general it therefore can be accepted that, depending on the capacity of the transport unit and on the grades met with on any particular route, this system of road transportation can be profitably operated at a cost of from eight to 15 cents per ton-mile inclusive of all reasonable losses entailed by working short time or under full capacity.

In addition with the wheels only imposing a load of from 10 to 20 lb. per square inch of road surface, the vehicles will improve and not destroy the roads and will form a hard smooth surface with can also be used by motor-cars and light motor trucks equipped with low pressure tyres. In the loess country in dry weather this surface would be of almost concrete hardness similar to the surface of roads used by camel transport, as these animals impose a similar load on the ground that is about 15 lb. to the square inch.

Comparison with Narrow Gauge Railways

It may be asked how the cost of installation of such a system of transportation compares with that of light and narrow gauge railways. By light railways are meant standard gauge railways equipped with 35 to 45 lb. rails, as advocated as the initial step in the construction of main arterial railways by Colonel Shaw in his "Economics of Light Railways for China," but with such railways there is no basis for comparison as though, by employing this lighter rail section, a saving is shown of about \$50,000 per mile over the 85 lb. standard section, this saving is made on a total cost of \$100,000 to \$150,000 per mile, such being the original cost of the Chinese trunk lines.

It is therefore only with narrow gauge railways of the very cheapest type, say 2-ft. 0-in. gauge equipped with 16 lb. rails that a comparison can be made and an endeavor will be made to do this without going into too much detail.

To simplify matters it is assumed that both systems are constructed in level country and that in both cases the cost of earthwork, bridges, etc., is the same, though this assumption is all in favor of the light railway, and only the cost and carrying capacity over a distance of 60 miles taken into consideration.

Narrow Gauge Railway—Cost of Permanent Way

16 lb. rails with fishplates, bolts, nuts and spikes.	Weight 29.5
tons per mile at \$135 per ton	.. .. \$4,000
3,000 ties spaced at about 2-ft. at 25 cents	.. .. 750
Cost of transportation and laying track, say	.. .. 250
Total Cost per mile	.. .. \$ 5,000
Cost for 60 miles	.. .. \$300,000
Add for sidings 10 per cent	.. .. 30,000
Total Cost for 60 miles (no ballast)	.. .. \$330,000

Narrow Gauge Railway—Cost of Rolling Stock

The heaviest wheel load that can be carried on a 16 lb. rail with ties spaced at 2-ft. centers is about 2,950 lb., and adopting a 0-6-0 type of locomotive so as to give maximum adhesion, a locomotive weighing 17,600 lb., or say, nine tons, is the heaviest that can be employed on this rail section. Such a locomotive should have a tractive effort of about 2,200 lb., and, taking rolling friction at 20 lb. per ton, should be capable of hauling 110 tons on the level. The cost of such a locomotive is at least \$10,000.

For the sake of reducing first cost it is assumed that trucks of five ton capacity are used with this locomotive and these when empty will weigh about three tons each, and the maximum load that could be hauled on the level would be 14 trucks carrying 70 tons and weighing 42 tons, a total load of 112 tons. Such trucks would cost about \$1,400 each.

Cost of one train to carry 70 tons is therefore :—

1 Locomotive	.. .. \$10,000
14 Trucks at \$1,400 each, say	.. .. \$20,000
Total cost of one train	.. .. \$30,000

This train is assumed to run at a speed of 15 m.p.h. and if this speed could be maintained as the average over the 60 miles, this distance could be run in four hours and, allowing four hours at each end for loading and unloading, the train would carry 70 tons per every 12 hours.

In comparison the road train costing \$60,000 and carrying 50 tons at a speed of 5 m.p.h. will accomplish the journey in 12 hours and, allowing three hours at each end for loading and unloading, will carry 50 tons over the 60 miles in every 18 hours. From this it will be seen that, when the cost of permanent way is taken into consideration, the road train offers much the most economical form of transport for carrying 50 to 100 tons per day over a distance of 60 miles.

The cost of both systems is about the same when the capacity of the line is raised to about 270 tons per 12 hours, for in this instance eight road trains costing \$480,000 will carry 400 tons in 18 hours, or 266 tons in 12 hours, and four railway trains costing \$120,000 plus \$330,000 for permanent way, will haul 280 tons in the same time.

At the same time it may be pointed out that for increasing density of traffic the railway train would be unable to keep up an average speed of 15 m.p.h. on account of the numerous delays that would be incurred at crossing stations and other places, and a limit would be reached beyond which it would be impossible to operate any more trains, this limit possibly being about eight trains in each direction per 12 hours. On the other hand there is no such deterrent in road transportation as road trains can pass those coming in the opposite direction at any point and, if need be, the road can be widened at little extra expense, so that within reason there is no limit to the number of road trains that can be run on one route at a time.

The question of the relative merits of roads and narrow gauge railways is exhaustively dealt with by Mr. Harold Stringer in the *The Economics of Chinese Railways* and in summing up he says :—

"Roads at a maximum cost of £1,200 per mile (excluding rolling stock) of almost unlimited traffic handling capacity are undoubtedly a sounder investment than 2-ft 0-in. gauge lines costing £1,600 per mile (including £500 for rolling stock) and with very limited capacity."

At present rate of exchange these figures give a cost of \$17,600 for the railroad and \$19,000 for the road per mile, but that of the road is calculated on a heavy type of construction with 12-in. deep rubble foundations covered with six inches of ballast, and the bridges are estimated to cost the same as for the railway. It follows therefore that a cheaply constructed earth road with cheap bridges, of the type suggested hereafter, would be yet a much sounder investment.

Comparison of Narrow Gauge Railways and Road Transport on Grades

It is, however, on grades that the road locomotive shows up to greatest advantage as with its greater tractive effort it can haul greater loads up hill than can a railway locomotive of the same weight.

Grade resistance is not a variable factor as is rolling resistance but is the definite weight that has to be lifted against the force of gravity by a locomotive, tractor, or motor truck during the time the vehicle covers a certain horizontal distance when going up hill.

In all cases the pull required to overcome this grade resistance bears the same ratio to the load being hauled as the distance moved vertically bears to the distance moved horizontally in any given time. Thus to haul a load of 10,000 lb. up a three per cent grade requires a tractive effort of 300 lb. to overcome grade resistance, and similarly a seven per cent grade will demand a 700 lb. pull.

A three per cent grade is about the maximum that can be adopted for a narrow gauge railway and comparative figures for haulage on this grade by these same railway and road trains are as follows:—

Railway Train

Truck gross weight	..	..	..	..	110 tons
Locomotive weight	..	..	..	..	9 tons

As gravity acts on the locomotive as well as on the trucks hauled by it, the tractive effort absorbed by the locomotive itself when going up hill has to be subtracted from the total tractive effort in order to find that available for hauling the trucks, and in this case, the grade resistance being three per cent or 60 lb. a ton, the grade resistance of the nine ton locomotive is 540 lb. Therefore the tractive effort available for hauling the trucks up a three per cent grade is 1,660 lb., which is equivalent to the total tractive effort of the locomotive, viz. 2,200 lb. less 540 lb., the grade resistance of the locomotive. The total resistance offered by the trucks is 80 lb. per ton hauled, made up of 20 lb. per ton rolling resistance and 60 lb. per ton grade resistance, and based on these figures the total weight that can be hauled up a three per cent grade by this locomotive is:—

		Total available tractive effort
		Total resistance per ton hauled
	=	1,660
		80
	=	20.8 gross tons
Proportionately = Payload		13.0 tons
Tare		7.8 tons

Road Train

Trucks gross weight	80 tons
Locomotive	6 tons

In this case the tractive effort available for hauling the trailers up hill is 5,240 lb., as the total tractive effort is 5,600 lb. and the grade resistance of the tractor 360 lb. The resistance on the other hand is increased to 130 lb. per ton, as 70 lb. per ton rolling resistance has to be added to the 60 lb. grade resistance.

The total weight that can be hauled up a three per cent grade by the tractor is therefore:—

		5,240
		130
	=	40.5 gross tons
Proportionately = Payload		25 tons
Tare		15 tons

From the above it will be seen that a road train, which on the level will haul only about 70 per cent of the load of a railway train, will, when on a three per cent grade, haul almost double the load of the same railway train on that grade, and the steeper the grade the greater will be the difference.

Earth Road Construction Cost of Earth Roads

Contrary to the generally held opinion it seems probable that earth roads can be constructed in China more cheaply by means of grading machinery than by manual labor, except in such cases as road building is undertaken as a part of famine relief or for the purpose of providing employment for disbanded soldiers, as costs in other countries seem to prove this. For instance in India, where the cost of labor is much the same as in China and the Rupee is now of about the same value as the Chinese Dollar, the cost of construction of earth roads in level country is from Rs. 300 to Rs. 400 per mile when grading machinery is employed, whereas that of roads built by manual labor is from Rs. 1,000 to Rs. 5,000 per mile. In China roads built by the China International Famine Relief Commission have cost on an average \$2,000 per mile, which is about the same as the Indian figures. In North America, where labor is much more expensive than in China or India though gasoline is far cheaper, a road constructed by tractor and grader costs from

Gold \$100 to \$150 per mile, or say Chinese \$400 to \$600, which is a close approximation to the Indian costs.

It therefore appears probable that, even when using gasoline as the fuel for the tractors, roads could be constructed in level country by means of a tractor and grader at a cost of \$300 to \$400 per mile.

At the same time there is no reason why a large number of the now-existing earth roads should not be turned into motor transport roads and the cost of such conversion would be much less than that of constructing new earth roads. It has been possible to obtain some exact figures on construction of a similar nature as one of the East African countries recently purchased four tractors and graders for the purpose of constructing new and maintaining existing roads and detailed costs of operation have been published for private circulation. Under one heading the cost of what is called "Light Construction" is given, which entails about the same amount of work as would likely be required to convert an existing Chinese earth road into a motor transport road, in that for every mile of road completed the tractor and grader unit made fourteen cuts in all traversing 14 miles. Including overhead charges the cost of this worked out at only \$73 per mile of road completed, and it may be of interest to give details of this cost.

The plant consisted of four tractors each rated to develop 30 h.p. drawbar pull and four leaning-wheel graders with 8-ft. long cutting blades and the first cost c.i.f. was:—

Four Tractors at £575 each	= £2,300, which at \$16 = £1 = \$37,000
Four Graders .. £310 ..	= £1,240, .. \$16 = £1 = \$20,000

Overhead Charges

Converted to rates applicable to China		
Depreciation at 20 per cent on ..	\$75,000	\$11,400
Salary of Superintendent at ..	500	per month 6,000
Travelling Allowance at ..	100	" " 1,200
Wages four tractor drivers ..	50	" " 2,400
Wages four grader operators ..	30	" " 1,440
Repairs and renewals in first year ..	£70 0 0	1,120

Total Overhead for four units for one year, say ..	..	\$24,000
On basis of each unit working 150 days a year		
Overhead per unit per day ..	..	\$40
On basis each unit working six hours a day ..		
Overhead per unit per hour say ..	..	\$7

Details of Operation on which two units were employed

Road miles completed ..	..	4
Total miles run by two units ..	..	56
Unit miles run per mile of road completed ..	..	14
Total number of hours worked by both units ..	..	25.6
Average speed of units in miles per hour ..	56	= 2.2 m.p.h.
	25.5	

Time taken to complete one mile of road ..	25.5	= 6.4 hours
	4	

Total gasoline consumption	90 gals. at \$1.00	= \$90.00
.. lubricating oil	6 .. at \$3.60	= \$21.60

Running Costs for 56 Unit Miles	\$111.60
Running Costs per Unit Mile	\$2.00
Overhead per Unit Mile on basis of	\$3.20
\$7.00 per hour and speed of 2.2 m.p.h.	
Total Operating Expenses per Unit Mile	\$ 5.20
Total Cost per mile of road completed \$5.20 × 14, say,	\$73.00

As shown above one mile of road was completed in 6.4 hours so that working eight hours per day one tractor and grader could probably convert an existing earth road into a motor transport road at the rate of a mile and a quarter per day and at a cost of say \$73 per mile, and by using coal as fuel for the tractors the price could be reduced to between \$50 and \$55 per mile.

Road Formation

It is not proposed to enter into the question of road formation, alignment, and grades as the Ministry of Railways has already a specified type of standard construction, but emphasis must be laid on the fact that damp is the worst enemy of an earth road and therefore all earth roads should be built with sufficient camber to immediately carry off all normal rainfall into the side ditches, which, if they cannot be drained as in the case of sunk roads, should be of as large a capacity as possible to ensure that no water remains on the road surface. To further ensure rapid drying of the surface the formation level of the road should be above that of the saturation level of the surrounding country and the growing of tall trees along the sides of the road, which keep off the rays of the sun, should be avoided.

It cannot be expected that, during times of abnormal rainfall in the rainy season, these earth roads can be kept open all the time but that is a time when crops are growing and people are not accustomed and, at present, do not expect to travel. As soon as the rainy season is finished the roads can be rapidly run over by a tractor and grader and put in working order in a very short time. This has proved to be the case in East Africa, where there is a wet season much the same as in China, and where by maintaining a formation by the employment of tractors and graders the "seasonal" roads are all being gradually converted into "all-weather" roads.

Road Maintenance

While this form of road train transportation will level and consolidate the roads it cannot be expected that maintenance will be altogether avoided as no matter what precautions may be taken narrow tyred carts are likely to get onto parts of a road and cut it up.

It will certainly be necessary to reform roads after the wet season and it is most essential that this should be accomplished with speed so that the roads and road transport can as quickly as possible be again put on a paying basis, and there seems to be no alternative to the employment of tractors and graders for this purpose.

In East Africa it is the practice to reform the roads as soon after the wet season as possible when the earth is still soft and damp and when doing so the formation is raised above the average height, so that during the following dry season no further addition of earth to the crown of the road is required, all subsequent operations on the road being in the nature of planing or smoothing off any rough surfaces that may be formed.

In carrying out this work three tractors hauling three or four graders are used working one behind the other and moving continuously from one end of the road to the other. Assuming costs the same as those given on a previous page the cost and time taken on such work is given in two examples hereunder.

Example No. 1

Plant, three units, one of which consists of a tractor hauling two graders	
Road miles completed	77
Total miles run by three units	245
Unit miles run per mile road completed	3.2
Total hours worked by three units	104
Average speed of units m.p.h.	2.3
	<hr/>
Time to complete one mile of road by one unit	104 1 hr. 21 min.
	<hr/>
Time to complete one mile of road by three units	27 min.
Running Costs per unit mile	\$1.68
Overhead per unit mile	\$3.10
	<hr/>
Total Operating Expenses per unit mile	\$4.78
Total cost per mile of road completed	$\$4.78 \times 3.2 = \15.40

Example No. 2

Plant, three units	
Road miles completed	129
Total miles run by three units	387
Unit miles run per mile road completed	3
Total hours worked by three units	148
Average speed of units m.p.h.	2.6
	<hr/>
Time to complete one mile of road by one unit	148 1 hr. 9 min.
	<hr/>
Time to complete one mile of road by three units	23 min.
Running Cost per unit mile	\$1.27
Overhead per unit mile	\$2.70
	<hr/>
Total Operating Expenses per unit mile	\$4.00
Total Cost per mile of road completed	$\$4.00 \times 3 = \12.00

The above examples therefore show that to remake a road after the wet season should cost about \$12 to \$16 per mile and with three units in operation should be done at a speed not exceeding half an hour per mile of road, or sixteen miles in an eight hour day. Therefore 100 miles of road could be made fit for operation in about a week at a total cost of \$1,200 to \$1,600. Subsequent smoothing off of rough surfaces could be undertaken by one unit at a cost of about \$4 per unit mile.

On the assumption that in remaking an earth road it will be required to raise the level of the crown of the road by at least an average depth of six inches over a width of six feet with earth

brought from the sides of the road, it is possible to make some estimate of the cost of doing such work by manual labor. This work will entail moving and tamping 15,840 cu. ft. of earth per mile of road, or 145 fang, at 110 cu. ft. per fang. On road work in China it has been found that a laborer can move and tamp about a fang per day, and therefore, with wages at 30 cents per day, in round figures 150 laborers will complete a mile of road per day at cost of \$45. To complete 100 miles would cost \$4,500 and with only 150 laborers working would take 100 days. Of course the speed of remaking could be increased by using more men but it would not be a practical proposition to try and complete the work in seven or ten days, as can be easily done by tractors and graders.

In East Africa the cost of ordinary repairs, that is filling up ruts and holes with soil brought from the sides of the road, is estimated at 40 men-days per mile, and with wages at 30 cents per day the cost of such work would be \$12 per mile, which is practically the same as that of the tractor and graders for remaking the road.

Road Surfacing

It is proposed to go into this subject in detail but it can be pointed out that much can be done, when the density of traffic warrants the extra expenditure, towards hardening and water proofing the surface of earth roads and thus reducing maintenance costs, by sand-clay mixtures, such as are widely used in the United States, by gravel or broken bricks, or by oiling, where cheap oil is available.

Bridges

In railroad and ordinary highway construction bridges are an item of considerable cost, but for a system of road transportation such as is visualized in this article, comparatively cheap methods of crossing rivers can be adopted.

For rivers which are practically dry for the greater part of the year, though subject to heavy and sudden floods during the rainy season, the cheapest form of crossing is that known as the "dry ford" or submersible causeway. This form of bridge is simply a causeway in stone and/or concrete in which are placed culverts to carry off the flow during average weather conditions. In times of flood, which are usually of short duration, the water flows over the top of the causeway, but even then, if the water be not too deep, traffic need not be discontinued as the sides of the causeway can be defined by poles rising above the level of the water. This form of river crossing is infinitely cheaper than a bridge built above flood level, especially in the case of the wide dry river beds so common in China, and has been successfully adopted in India, South Africa, and other places.

As saving in time in such a transport system is of secondary importance a ferry offers the cheapest means of crossing a wide and/or deep river, and two cheap forms of such ferries are available, both of which could be worked by man power. Whether the goods and passengers only should be ferried across or the laden trucks and tractor is a matter for special consideration in each particular case.

Conclusion

It is hoped that the above gives a fairly clear outline of a system of cheap road transportation and construction, by the adoption of which much could be done towards furthering the schemes for unification by reconstruction and rural rehabilitation which are foremost in the country's thoughts at the present time.

Rural rehabilitation and cheap communications march hand in hand as there is no object in encouraging the farmer to grow bigger and better crops, and there is no incentive for him to do so, unless he is able to dispose of his surplus at a profit and thus reap a reward for his increased knowledge and skill. As long as the farmer can only find a market within a radius of 10 miles or so there is no chance of his being able to dispose of his surplus at any profit, as in all probability all the farmers in the surrounding neighborhood have a similar surplus for disposal, which will tend to reduce and not increase the local price, and the only possible cure for such a state of affairs is the provision of cheap transport so that this surplus can be sold in other less favored localities.

It is also of interest to note that the benefits to be derived from cheap transportation do not increase in direct proportion to the

(Continued on page 439)

Broadcasting in Singapore

DETAILS are now available of the new Malayan radio venture. The British Malaya Broadcasting Corporation, Ltd., has been registered with a nominal capital of \$500,000 divided into \$1 shares of which it is proposed to issue 200,000 immediately.

It is proposed to erect a medium wave transmitter in Singapore which, it is stated, will enable listeners in Singapore island and south Johore to receive programs with inexpensive receivers.

This project marks a new departure in Malayan broadcasting as the three transmitters working at present are short-wave stations.

The directors are Messrs. Allan McVie, John Laycock, O. R. S. Bateman, A. P. Cameron, K. C. Eu, and D. Frankel.

The prospectus states:

Behind the Times

British Malaya to-day must be one of the few countries and Singapore one of the few remaining important cities of the world which do not offer their inhabitants the advantages of a broadcasting station.

The technical difficulties attending broadcasting in Malaya have been carefully considered and in the opinion of those fully competent to judge, both here and in England, there are no major difficulties in the way of providing an efficient service.

It has been decided in the first place to instal a medium wave transmitter only in Singapore and give first class reception facilities in Singapore and Southern Johore and possibly under good conditions at night satisfactory reception as far north as Penang, or even further. The choice of a medium wave transmitter of adequate power has been made to enable licence holders to enjoy the programs by the purchase of inexpensive sets and to obtain the best reproduction possible. Medium wave transmissions are the type used mostly in England and on the Continent.

The problem of broadcasting to the F.M.S. and Penang will receive attention by the Corporation when the position of broadcasting in Singapore has been consolidated, in order to provide an efficient service for listeners in the northern sea. This could be effected either by erecting a short wave transmitter of good power or small medium wave transmitters at suitable centers which would give an independent or simultaneous first class service with

the medium wave transmitter which will then already be operating in Singapore.

Singapore First

A receiving station will also be erected in Singapore in the first place, so that when conditions are favorable programs transmitted by the B.B.C., European and other first class short wave transmitting stations will be relayed to Singapore listeners on the medium wave transmitter and, when erected, through the short wave transmitter to the F.M.S. and Penang.

The Corporation will endeavor to provide a broadcast service which will appeal to all classes and nationalities.

A qualified engineering and program staff will be engaged and the broadcast proposed will include a local and foreign news service, topical events such as commentaries on tennis, cricket and football matches, racing, boxing contests, etc., from the main sporting grounds in Singapore.

Apart from receiving opinions from the wireless trade, advisory boards will be formed to assist the management in connection with the composition of both European and Asiatic program and an endeavor will be made from the start to maintain a very high standard.

As mentioned above, relaying of foreign stations will also have careful consideration, and program for children and educational matter of a non-political nature will be included as soon as the organization permits.

It is proposed to instal a 2 kw. medium wave transmitter to cost about \$63,000.

Two Comparisons

The estimated monthly expenditure including renewals and repairs is approximately \$4,000, which in round figures will be covered by the issue of 4,500 licences. In any broadcasting venture it is difficult to estimate the response, but in most countries it is greater than anticipated and it may be mentioned that, according to information available, there are more than 11,000 licences in existence in Bangkok and approximately 14,000 in Manila. The Corporation is entitled under the licence to 90 per cent of the fees collected by Government. The cost of a receiving licence has been fixed at \$12 per annum, or \$6 for the second half of any one year.—*The Straits Budget*.

SILVER BULLETS

(Continued from page 419)

diagnoses accurately the basic malady of China and says frankly that no remedy or palliative will bring relief and restore vitality until the cancer that is eating away the vitals of China is removed. And this wise old man is correct. Nothing can be done to put China on her feet so long as three million armed men in the regular forces and another million or so bandits and communists are preying on the people and sucking their very life blood. It has been obvious to any intelligent and unbiased observer that the day would inevitably arrive when Nanking would be brought face to face with bankruptcy. No nation, however powerful and rich, could stand this strain as long as China. That the Nanking Government has survived is due solely to the fact that Foreign Powers insist on recognizing it as representative of the whole, giving reality to something which does not exist. As a consequence, it has enjoyed a practical monopoly of revenues to maintain its armies, which in any other well regulated state would have been expended for the benefit of the districts in which they were collected. Customs tariffs have been increased time after time, new taxes have been invented and collected, in places many years in advance, domestic loans have been issued on the security of these increased revenues to the full amount that the traffic would bear

and an opium monopoly has been resorted to as a last resort to meet the constantly increasing demands of the military. The collapse had to come in time. The American Silver Act may have hastened the debacle by depleting the hoards of silver stored in the banks of Shanghai and thereby depreciating the note issues, but the fact remains that for every dollar that has flowed out of China a Manchoukuo Yuan or a Japanese Yen has flowed in and maintained the balance.

Others may not see the picture in this light but Manchoukuo entertains so illusions about where her silver is going, which helps to explain why her Government, in conjunction with the South Manchuria Railway Company and the Kwantung Army Headquarters, are so vitally interested in creating a Manchoukuo-North China-Japan economic bloc. It will also help to explain why the Japanese Army opposed the recent attempt on the part of Nanking to nationalize and seize all deposits and hoardings of the white metal. If it had been carried out, it would simply mean that Japan—and Manchoukuo—would continue to feed at least \$100,000,000 a year in hard cash into North China to be transferred to Nanking to purchase the aeroplanes, arms and munitions for the reconquest of Manchoukuo.

The Waterworks of the City of Woochow, China

By H. WOLFEMADE, Shanghai, in "Engineering Progress"

THE growing realization of the dangers threatening from drinking water infected with disease carriers caused the Chinese Government some years ago to start providing cities and larger municipalities with modern water-supply systems. A number of such waterworks have already been built, while plans for a number more are completed and on hand.

In 1928, preliminary work was undertaken on a drinking-water supply for the city of Woochow. The project was planned by the Siemens China Company, the work being carried out under the superintendence of the Public Works Department by native contractors.* Because of the political unrest in 1930 and 1931, work on the enterprise was repeatedly interrupted, so that it was not until 1932 that the plant was completed and initiated into service.

Woochow is situated in the province of Kwangsi, on the West River and the mouth of the Fu River, about 300 km. (180 miles) to the west of Hongkong. The journey upstream from Hongkong by river steamer takes about two days, and the return journey about one day. At the present time, the town has a population of about 130,000, and apart from the purely Chinese quarter, is largely built along modern European lines, with concrete and asphalt streets. Until the advent of the waterworks, the water consumed by the inhabitants was taken from the river, and, without being cleaned, brought by water carriers to the dwellings.

In the extensive preliminary work embracing the survey of the entire municipal area, inclusive of topographical and contour-line maps, the first task undertaken was the necessary chemical and bacteriological examination of the water at the points considered as potential sources of supply, namely, the Fu River and the springs of the Bin-Tsin and Yua-Tse valleys. The plan of bringing the water from the two springs had to be given up because of the high cost of the necessary line. Accordingly there remained as the only possibility the Fu River, the water of which proved of about the same quality as that from the two springs.

Local conditions for the execution of the waterworks were favorable, a hilly section directly adjoining the city on the north-east and rising to a height of about 55 m. (180-ft.) above the town center being suitable for the location of the settling basins, filters, service reservoirs tanks, and remaining accessory installation. The waterworks comprises the water intake or raw-water pumping plant, the filter plant and the distributing mains.

Extraordinary difficulties were presented by the planning of the water-intake plant because of the

enormous fluctuations in the water level of the Fu River, the difference between low water and highest high water amounting to about 24 m. (80-ft.). For this reason, vertical deep-well pumps were used to handle the raw water. At high water, these pumps work completely submerged, while the three-phase motors driving them are set up above maximum high-water mark. As will be seen from Fig. 2, the vertical shaft connecting the motor and pump is located in the ascending pipe. The motor house, which also

contains the starters for the three-phase motors, is erected on a ferro-concrete tower structure, Fig. 3, about 1 m. (3-ft.) above high-water mark. The ascending lines and pumps are freely suspended without lateral support. At low water, the suction head of the pumps is about 4 m. (13-ft.), and the strainers with the foot valves are immersed under about 75 cm. (2.5-ft.) of water. Each pump delivers about 6 cu.m. (1,300 gal.) of raw water per minute, against a total head of about 100 m. (330-ft.). One of the two pumps serves as a standby.

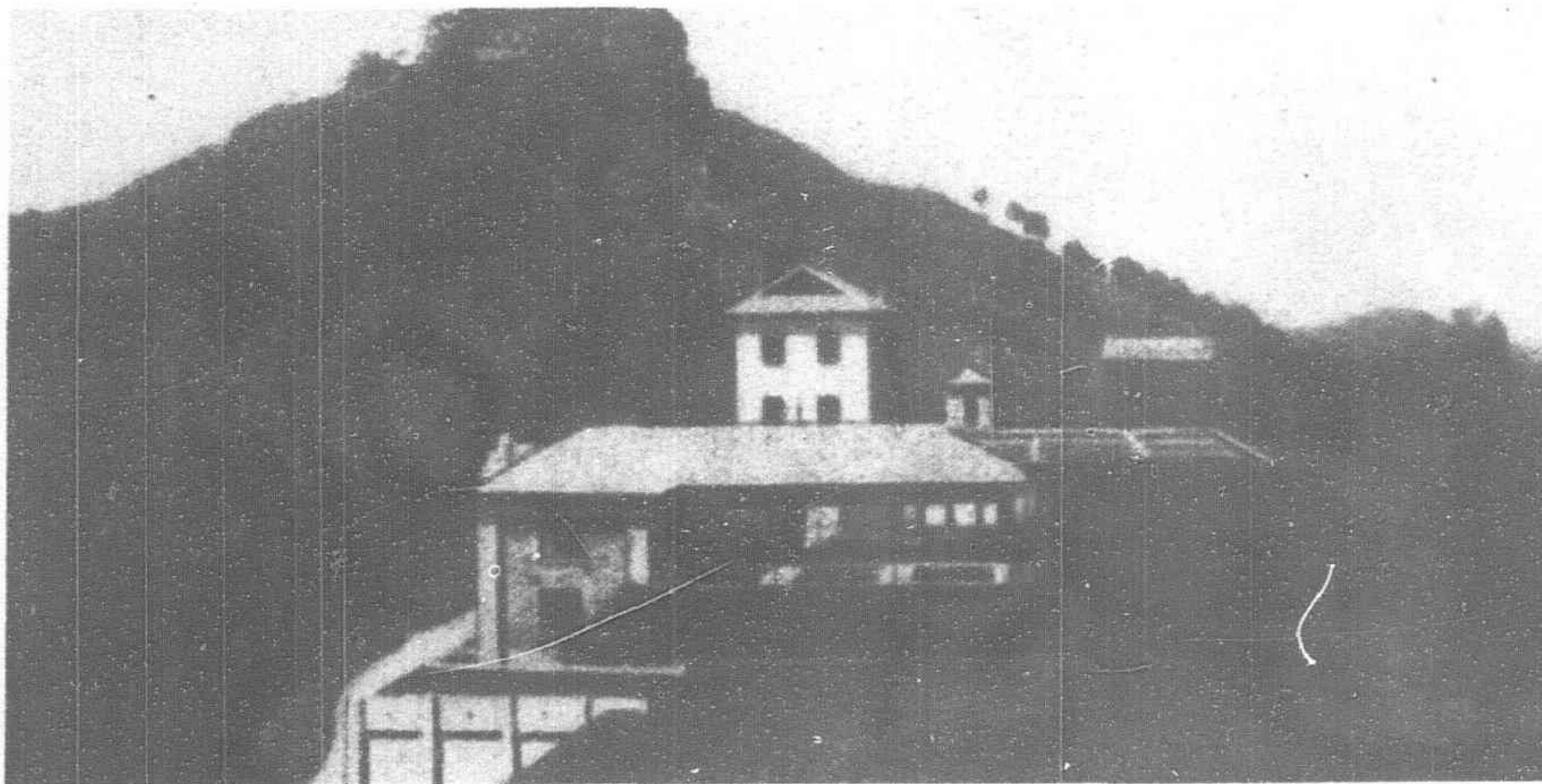


Fig. 1.—General view of Filter Plant

The pumps convey the raw water to the filter plant, Fig. 1, through a 400 mm. (16-in.) dia. pressure pipe line about 800 m. (2,700-ft.) long. The water first enters the sedimentation plant, which it slowly traverses in about four hours. The sedimentation plant is constructed from ferro-concrete. In order to forestall interruptions in operation, the plant is equipped with a number of draining systems and baffles distributed over the entire ground area. Each of these compartments is made with a pocket of inverted-pyramid shape, Fig. 4, from the apex of which a drainage

pipe for evacuation and sludge removal runs to the drainage system arranged underneath the plant, Fig. 5. Upon suddenly opening the gate valves provided outside the plant in the drainage lines the sludge deposited in the pockets is forcibly entrained into the various drainage branch pipes under the pressure of the water head in the basin. The sludgy water is conducted away, together with the filter washing water, through an open channel arranged outside of the plant. Before entering the sedimentation plant, the water is mixed with a precipitant in the form of aluminium sulphate

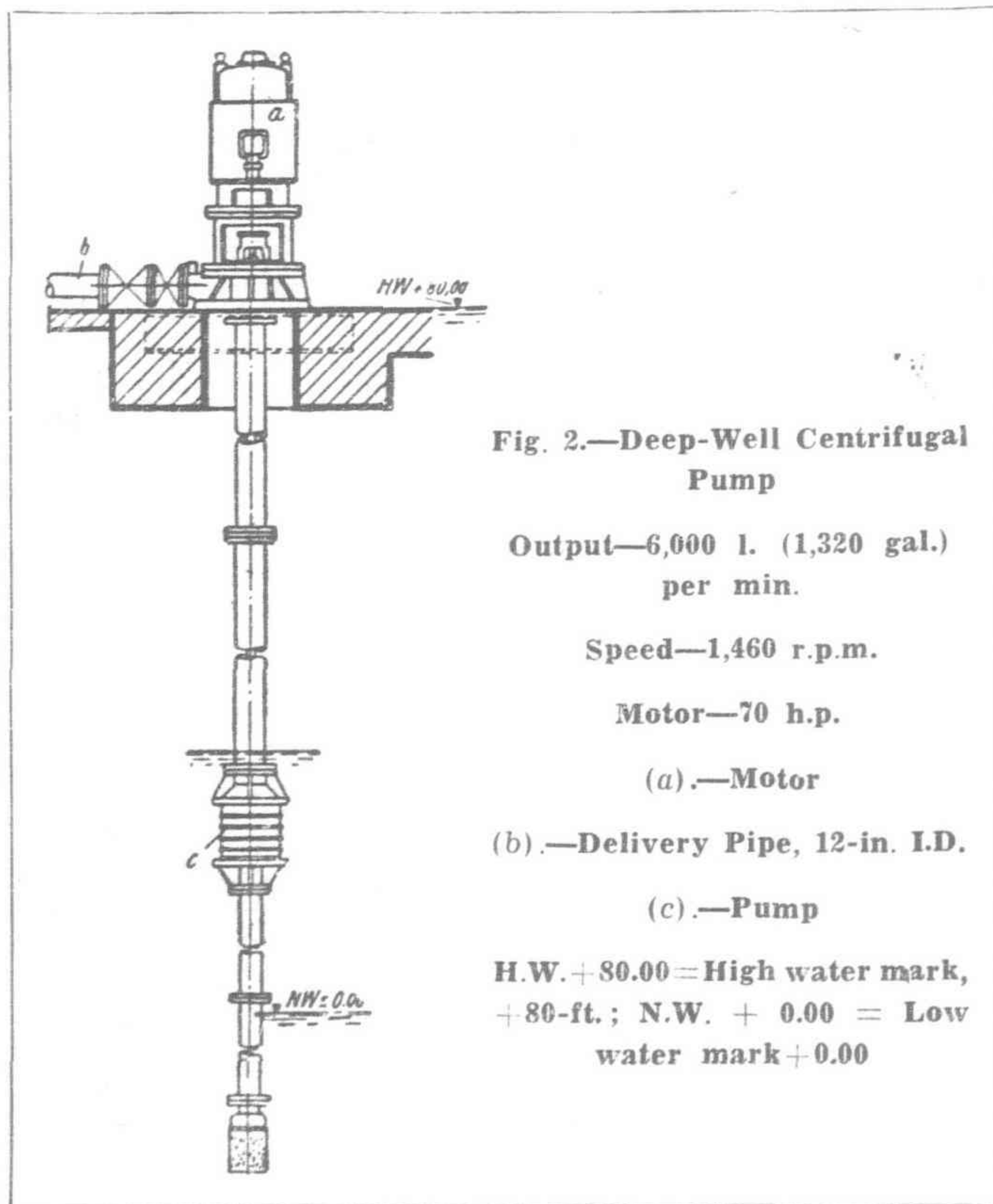


Fig. 2.—Deep-Well Centrifugal Pump

Output—6,000 l. (1,320 gal.) per min.

Speed—1,460 r.p.m.

Motor—70 h.p.

(a).—Motor

(b).—Delivery Pipe, 12-in. I.D.

(c).—Pump

H.W. + 80.00 = High water mark, + 80-ft.; N.W. + 0.00 = Low water mark + 0.00

* The Siemens China Co. was the main contractor for the supply of the pipe lines and fittings, pumps, driving motors, electrical measuring instruments, water meters, and other appurtenances. This firm let sub-contracts to the following:

(a) Electric driving motors for pumps, etc.: Siemens-Schuckertwerke, Berlin.
(b) Electrical measuring instruments, water meters, etc.: Siemens and Halske A.G., Berlin.
(c) Pipe lines for filter plant, distributing system and house connections, etc.: Vereinigte Stahlwerke, Abt. Schalker Verein.
(d) Gates and other fittings for filter pipe lines and distributing system, etc.: Bopp & Reuther, Mannheim.
(e) Chlorinating plant with all accessory equipment: Ozongesellschaft, Berlin.
(f) Deep-well pumping plant: A. Borsig, Berlin-Tegel.

(alum), which serves for precipitating coarse impurities in the raw water before it passes to the rapid-filter plant. The admixture of the aluminium sulphate varies with the time of the year and the corresponding amount of sludge to a maximum of 20 gm. per cu.m. (0.0002 lb. per gal.). The sedimentation plant is placed high enough to permit the clarified water to descend by gravity to the plant where the main rapid-filter process of cleaning takes place.

The rapid-filter plant consists of six rectangular reinforced-concrete tanks arranged in pairs. The pipe lines, stop valves, fittings, and other accessories can be controlled from a common platform arranged between the two rows of filters. Flushing of the filters is effected by water under pressure from a small elevated clean-water tank. The total output of the rapid filter plant is 360 cu.m. (80,000 gal.) per hour, equal to a daily capacity of 8,600 cu.m. (1,900,000 gal.).

In a lower storey of the filter house are accommodated a work-shop and the pumps for filling the elevated filter wash tank. The second storey contains the office of the superintending engineer with the dials of the electrical water-level remote-indicating system, filter regulators, Venturi meters, and other accessory apparatus.

From the rapid-filter plant, the water flows by gravity into two service reservoirs. These are two ferro-concrete tanks placed side by side, and each capable of holding 1,500 cu.m. (330,000 gal.). By this duplication of reservoirs, it is possible to empty one of them for cleaning and repair without the need of interrupting service. The water enters from the rapid filters through pipe extensions located in the rear ends of the reservoirs at a sufficient distance from the point of discharge to ensure continuous movement of the water. The throughput of the rapid-filter plant, as well as the outflow of the clean water into the city mains, are electrically registered by Venturi meters. Similarly, the water level in the reservoirs is electrically indicated. As has been mentioned, the indicating



Fig. 3.—Raw Water Pumping Plant and Pipe Line

elements of this registering apparatus are located in the superintending engineer's office, who is thereby enabled to maintain a complete check on the functioning of the plant from his desk.

Sterilization of the water is effected with the aid of chlorine gas. The admixture of the chlorine is carried out in the pure-water line leading from the rapid-filter plant to the service reservoirs and is automatically governed by a volume regulator operated by a Venturi tube. The chlorine used is supplied in the liquid condition in steel cylinders. On opening the cylinder valve, it escapes in the form of gas, which is brought to a lower pressure by a reducing valve. It then flows to a measuring apparatus of special design, which is set for the desired volume. The amount of chlorine gas thus measured off is dissolved in a dependable manner in a small volume of flowing water, which is then introduced into the water to be sterilized.

From the service tanks, the filtered and sterilized water flows by gravity into the distributing mains. In the event of a pipe bursting, an automatically acting valve at once blocks the discharge from the service tanks. The capacity of the distributing network was computed on the basis of the maximum daytime consumption. The pipe diameters and pressure-head losses were determined with the aid of the

tables in "Hydraulisches Rechnen" (Hydraulic Calculation) by Weyrauch, Stuttgart, 1912. Owing to the favorable position of the filter and service reservoir plant, the supply head is a good .40 m (130-ft.) at all points. Each pipe line can be separately shut off by a gate valve. At the main intersections of the pipe lines, distributing boxes are placed, and air valves at the summits, while the low points are provided with blow-offs. For fire-fighting purposes, underground hydrants of 70 mm. (2¾-in.) diameter are provided at average intervals of 100 m. (330-ft.). Distribution of the water to the inhabitants is effected by way of house connections, consumption being checked by water meters.

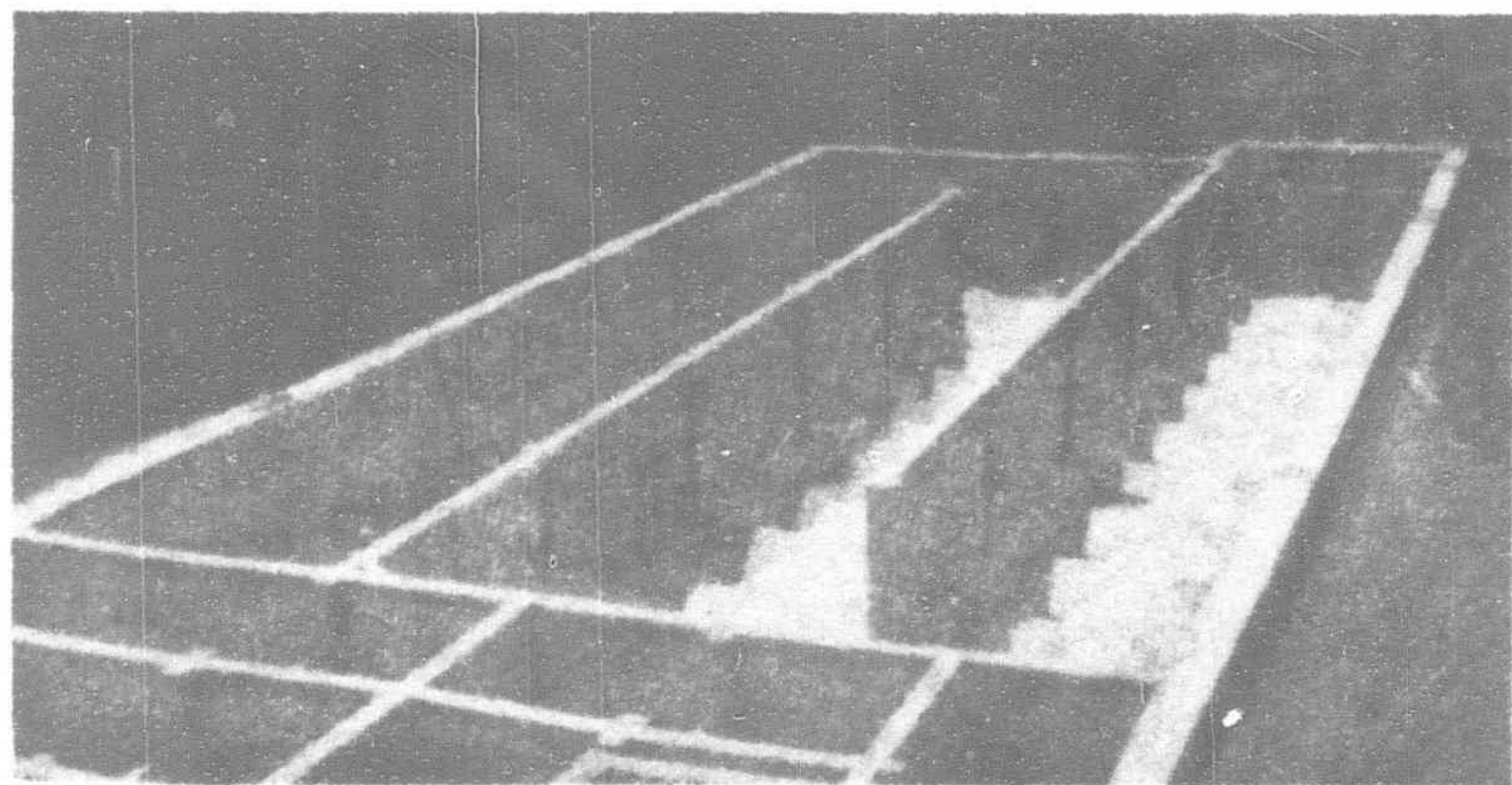


Fig. 4.—Settling Basins

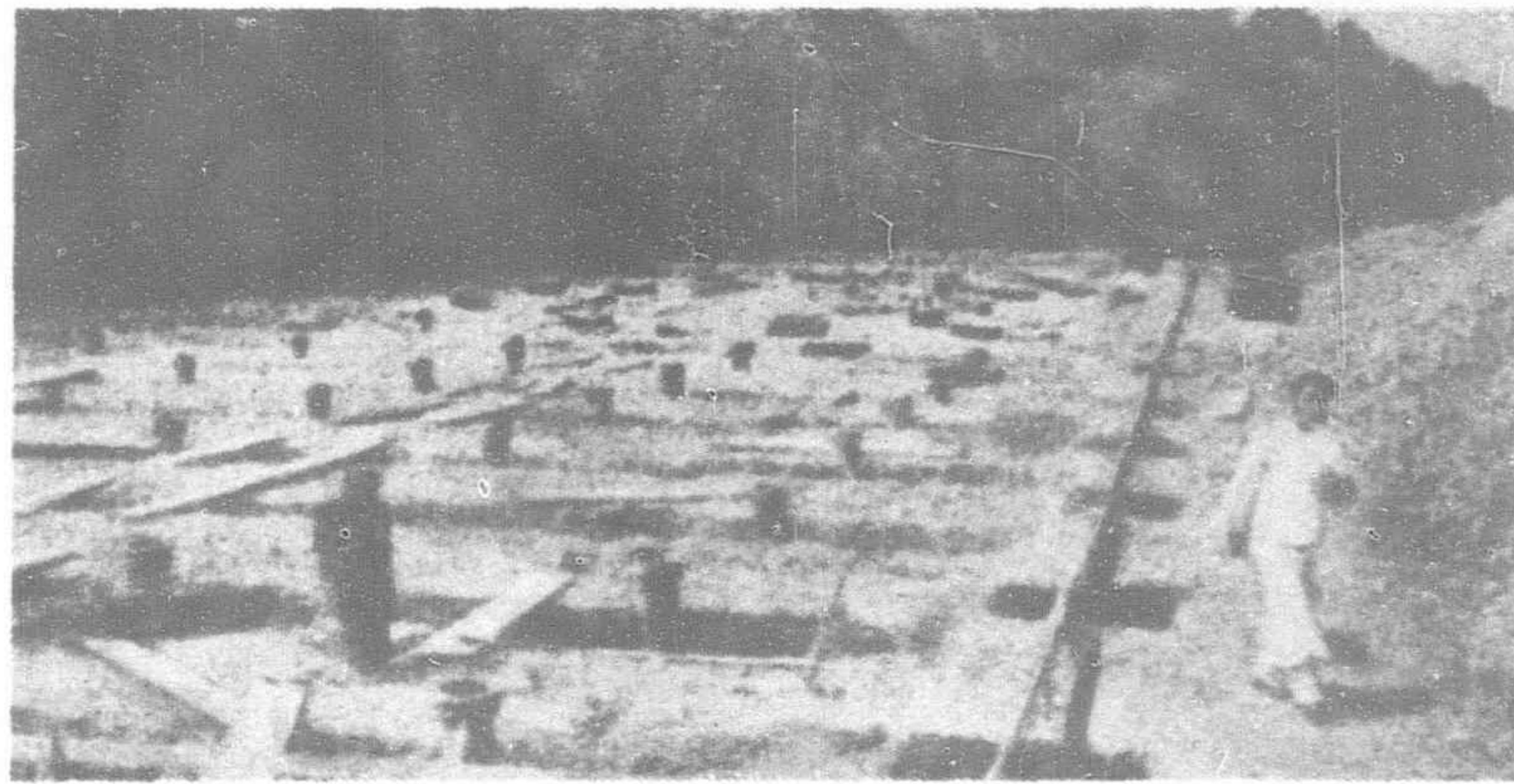


Fig. 5.—Sedimentation Plant in course of construction showing arrangement of Drainage System

A POSSIBLE SOLUTION OF CHINA'S TRANSPORT PROBLEM

(Continued from page 436)

reduction in transport rates but at a much higher ratio as the following will show. As an instance suppose that the price of grain at a certain market town or railway station is \$50 per ton and that the cost of delivering it there from places 10 miles distant is at the rate of 40 cents per ton-mile; then the farmer has to pay \$4 for transport and is left with \$46 to cover his costs and profit. That is to say that all farmers within this 10-mile radius, or say roughly within an area of 80 square miles round the market, can deliver their crops there at a profit, but the further outside of this area that a farmer lives the less incentive there is for him to produce except for his own requirements. If now transport rates are reduced to 20 cents per ton-mile the radius is increased to 20 miles without

increasing the selling price at the market, and the profitable area to about 320 square miles, so that four times the number of farmers are benefited by the reduced rates. Similarly if the rates could be reduced still further to 10 cents per ton-mile, the profitable area would be increased to about 1,280 square miles and the number of farmers, who would benefit, would be increased sixteen fold.

By thus, through cheap transport, increasing the number of farmers, who could deliver at a profit to market or railway, the available supplies of all staple products would also be much increased, so that in a short time there would likely be little further necessity for importing wheat and cotton from abroad.

Engineering Notes

MINING

ANHUI IRON MINE.—The Ministry of Industry has designated Tungkuan Shan, Hsiaotungkuan Shan, Tienao Shan and Pao Shan (Mountains) in Anhui province as a Government-operated iron mining area.

SURTAX ON ANTIMONY.—The Hunan Provincial Government has decided to impose a surtax on the export of antimony from the province, so as to secure funds for drought relief. The surtax will be \$20 on every picul of antimony exported.

NICKEL AND COPPER.—Large deposits of ore containing nickel, cobalt, pewter and copper were recently discovered in Western Karelia (near the Finnish border). A group of geophysicists of the Leningrad Geological Institute has been commissioned to conduct further investigations.

COPPER IN NORTHERN FUKIEN.—According to a recent report copper ore has been discovered some 12 miles from Shaowu city, northern Fukien. The Special Administrative Office for the 9th Area has dispatched a technical expert to collect specimens for the Provincial Department of Reconstruction.

BANS EXPORT OF SILVER.—In order to preserve sufficient cash for circulation in the province, the Kiangsi Provincial Government has issued an order, banning the export of silver. The order states that silver can be freely circulated among the various interior cities, but is not permitted to be transported to the river ports such as Kiukiang and Kanchow.

COAL MINING IN CHINA.—A Chinese Government offer has been made to furnish security for coal trade relief bonds, amounting to \$20,000,000. According to an official of the Chinese Coal Trade Merchants' Federation, the money will be used for the construction of light railways in the mining areas and such other construction as will increase the output of Chinese mines. Owing to civil war, the mines along the Lunghai and Pinghai Railways suffered huge losses.

RAILWAYS

LIGHT RAILWAY IN SHENSI.—For the purpose of facilitating coal transportation in northern Shensi, the provincial government has approved plans for the construction of a light railway to link up Hsienyang, a prosperous city at the north bank of the Yellow River, with Tungkwan, the coal producing district in northern Shensi.

ROLLING STOCK NEEDED.—In order to meet the demands of increasing traffic on the Tientsin-Pukow Railway, the Administration of the Railway has petitioned the Ministry of Railways for authorization to purchase additional rolling stock during the present year. The plans of the Railway Administration call for the purchase of 10 locomotives and 300 freight wagons. It is understood that the petition has been approved by the Ministry.

LUNG-HAI RAILWAY.—A loan for \$4,860,000 from a syndicate of five banks has been arranged for the extension of the Lung-Hai Railway for Sian, the present western terminus of the line, to Paochi, western Shensi, it is learnt at the Ministry of Railways. The contract was signed in Shanghai on May 21, by Mr. Tseng Chung-ming, Political Vice-Minister of Railways, representing the Ministry of Railways; and the banks' representatives.

SURVEY COMPLETED.—Surveys on the projected railway linking up Pengpu, station of the Tientsin-Pukow Railway, and Chengyang, in north-western Anhui, have been completed under the direction of the Ministry of Railways. It is understood that construction work will be started on the section between Pengpu and Loho, station of the Loho-Hofei section of the Huainan Railway. The total cost is estimated at \$500,000.

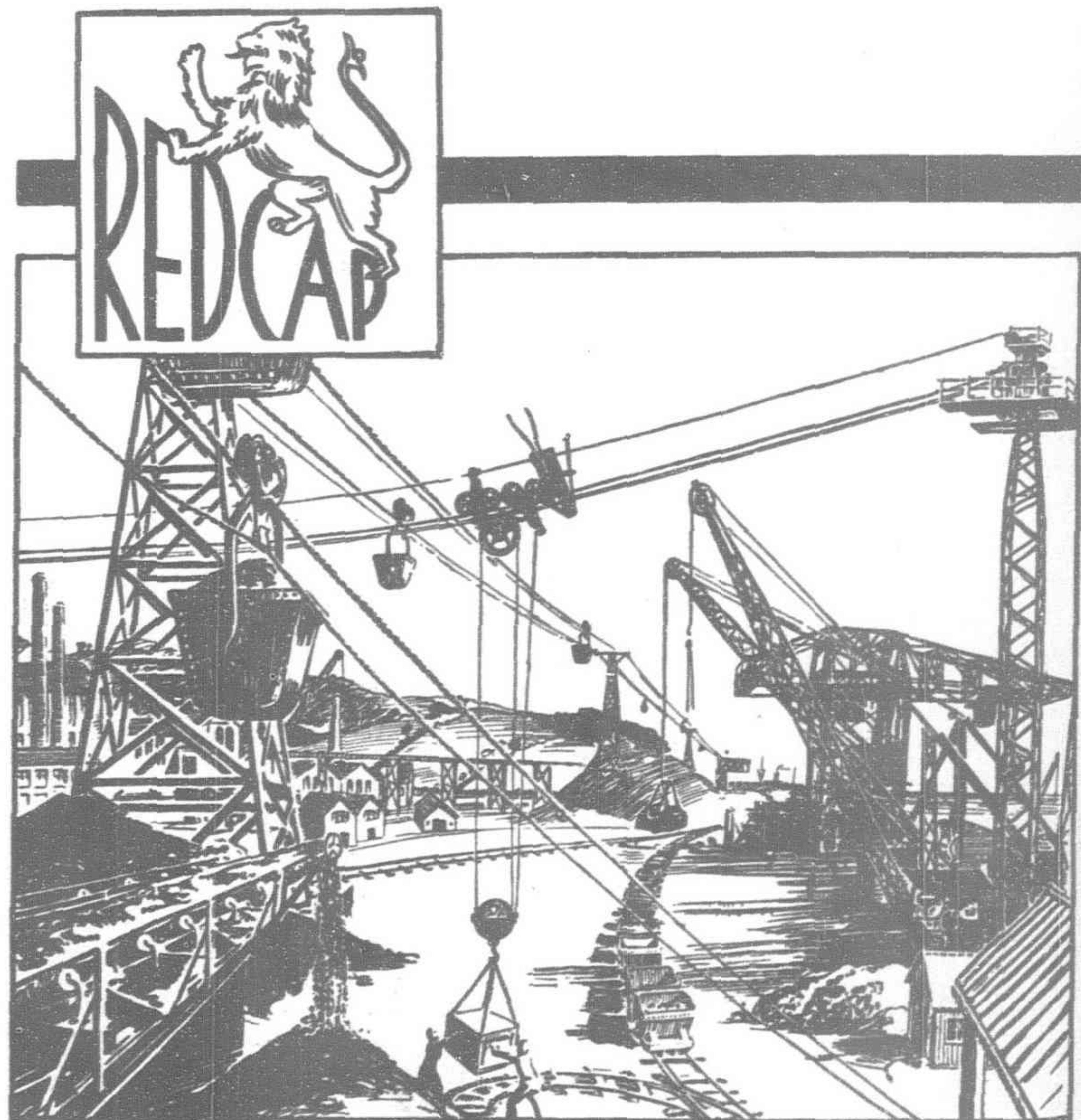
CANTON-SWATOW RAIL LINK.—Kwangtung military authorities are taking steps for the construction of a railway joining Canton and Swatow. The cost is estimated at about \$15,500,000. There was a suggestion to apply for a portion of the British Boxer Indemnity Funds, but this plan was ruled out owing to the fact that the Ministry of Railways would have no control over the proposed line, which is purely a provincial project. At present people travel between Canton and Swatow by boarding coasting steamers at Hong-kong.

HSUCHOW STATION.—In view of the importance of Hsuehchow city as a railway junction and in order to meet the increasing demands for traffic, the Tientsin-Pukow and the Lunghai Railway Administrations will jointly build a large railway station in the city. The total outlay is fixed at \$150,000, of which two-thirds will be borne by the Tientsin-Pukow Railway Administration and one-third by the Lunghai Railway Administration. The planning of the station will be entrusted to the Engineering Bureau of the Tientsin-Pukow Railway.

RAIL SURVEY WORK.—Headed by Mr. Wu Hsiang-chi, an engineering corps of 50 left Yushan, the present western terminus of the Chekiang-Kiangsi Railway in eastern Kiangsi on June 1, to start surveys on the last section of the line between Nanchang, provincial capital of Kiangsi, and Pingsiang, mining area in western Kiangsi. The survey work is to be completed in three months.

SZETCHUEN-HANKOW RAILWAY.—Survey of the route of the projected Szechuen-Hankow Railway is now in progress, according to information from the Ministry of Railways. The information states that the route of the line originally proposed would have encountered many mountains and work would have been very difficult to carry on. Now the Ministry is contemplating a change of the route and making a survey along the Yangtze River. As soon as the survey of the new route is completed, decision will be made as which one will be adopted.

TATUNG-PUCHOW RAILWAY.—In order to facilitate through transportation with the Lunghai Railway as a means of developing Shansi province, General Yen Hsi-shan, Director of the Taiyuan Pacification Headquarters, has decided to build a branch line of the Tatung-Puchow Railway between Yuncheng, southern Shansi, and Mouchingtu, on the northern embankment of the Yellow River, opposite the Shanchow station of the Lung-Hai Railway, in north-western Honan. The line will be 120 li (40 miles) long. An engineering corps has been dispatched to make surveys; construction work is expected to be started in two months.



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